Explanations, Economic Consequences and Perceptions of Internet Financial Reporting by Chinese Listed Companies

----------An Empirical Study of Chinese Stock Exchanges

by

Bing Zhang

Submitted for the degree of Doctor of Philosophy

Heriot-Watt University

School of Management and Languages

November, 2014

Abstract

The aim of this study is to examine Internet financial reporting (IFR) in an emerging capital market. It has three main objectives: first, to examine the provision of financial information on the websites of Chinese listed companies and identify the factors determining the financial information on such websites; second, to examine the economic consequences of IFR on a company's value in China; and, third, to investigate the perceptions of Chinese participants regarding IFR.

Fifteen research questions were designed and twelve hypotheses formulated to accomplish the above aims and objectives. This study applies an empirical approach to investigating IFR practices of Chinese listed companies. The study combines quantitative and qualitative research methods, with an emphasis on quantitative research methods. To answer the research questions and test the twelve hypotheses, data collection comprised an IFR index review and semi-structured interviews.

Descriptive analyses showed relative improvement in the disclosures of financial information, corporate governance information, social responsibility, timeliness of disclosure, presentation and usability on the sampled websites. The results of a univariate analysis and a multivariate analysis indicated that company size, industry type, big-4 auditor type, state share ownership, foreign share ownership, CEO duality, and the proportion of independent directors are significant explanatory variables associated with disclosures on corporate websites. Conversely, leverage, profitability, legal person ownership, and board size have no predictive value for determining Internet financial reporting practices among listed companies. Sensitivity analyses were performed and the results were consistent. This finding meets the expectations of agency theory, signalling theory, institutional theory, the cost and benefit approach, and stewardship theory.

The finding from the interviews with company participants suggested that factors determining whether companies adopt IFR include: communication tools with investors and other stakeholders, provision of timely information to investors, the extent to which having a website improves a company's image and reputation, management decisions and likelihood of winning awards. Factors influencing companies not to disclose financial information on their websites included the presence of financial information in

other media. Additionally, some companies had no website because there is no legal requirement to do so and so a website is not a management priority. Participants from companies also provided some ideas for IFR improvement from China's perspective.

Univariate and multivariate analyses were performed to discover whether IFR and its components affect a firm's value. Models for both 2010 and 2011 revealed that IFR total score has a significant negative impact on firm value. Additional regression tests were therefore performed to examine firm value and IFR components, IFR content, timeliness, corporate governance, social factors, presentation and usability all have a negative effect on firm value. A significant negative association between IFR information and firm value suggests proprietary costs are particularly relevant for IFR disclosure.

This study contributes to the literature by providing empirical and theoretical evidence about IFR practices of China listed companies. Results from statistical analysis, together with perceptions of participants, as expressed in interviews, provided a better understanding of IFR practices. In light of the research results, regulators and policy makers are expected to benefit from a clearer understanding of the needs of the market, thereby creating a new challenge for regulators when developing future schemes regarding the financial reporting regulatory framework, in order to achieve a higher level of compliance and transparency. These empirical results provide a significant benefit to professional bodies; in particular, furthering understanding of IFR practices and their characteristics, helping to standardise IFR content, to define codes of conduct, and to dictate rules and recommendations for the future. The findings will benefit companies seeking to learn about how to exhibit best practice. The results will be interesting to academics and future researchers in the area of emerging markets, as the Chinese stock market is developing rapidly and offers a unique institutional environment. This research also provides useful insights into the relationship between agency issues, the cost and benefit approach, unique institutional frameworks and IFR.

Key words: IFR, Corporate governance, Firm value, Perceptions.

Dedication

In memory of my beloved father, Professor Zhendian Zhang, who, sadly, did not live to see the end of my long journey to Edinburgh. This thesis is dedicated to him, whose demise left me with a void in my life. This thesis is dedicated to my mother, Dr Xiuqin Zhu, and my husband, Mr Kevin Cutsforth, for their endless support, love and encouragement.

Acknowledgements

It is my great pleasure to acknowledge my sincere thanks to all those who have given me help during the period of my research. Without their assistance it would have been impossible for me to complete this thesis.

First at all, I would like to express my great thanks to Professor Claire Marston, my primary supervisor, without whose continuous support, inspirations, kindness and encouragement this research would not have been successfully completed. I would also like to thank my secondary and third supervisor, Dr Santhosh Abraham and Professor Nick Paisey, for their supervision, guidance throughout the research.

Secondly, I would also like to thank warmly my thesis examiners, Professor Roszaini Haniffa and Dr. Nick Rowbottom for their helpful suggestions and comments that helped improving this thesis. Their guidance has served me well and I owe them my heartfelt appreciation.

Thirdly, I wish to thank all the members of the Accounting and Finance at Heriot –Watt University, for their supports during my research.

Last, but by no means least, I must acknowledge my thanks to all the interviewees who have kindly shared their time and experience with me and made this thesis possible.

Declaration statement

Table of Contents

List of Tables

List of Abbreviations

Accounting Standards for Business Enterprise (ASBE)

Chief Executive Officer (CEO)

China Internet Network Information Centre (CNNIC)

China Securities Regulatory Commission (CSRC)

Chinese Accounting Standards (CAS)

Chinese Standards on Auditing (CSA)

Chinese Stock Exchanges (CSEs)

Chittagong Stock Exchange (CSE)

Data Development Analysis (DEA)

Decision Making Units (DMUs)

Dhaka Stock Exchange (DSE)

Extensible Business Reporting Language (XBRL)

Feasible Generalized Least Squares (FGLS)

Financial Accounting Standards Board (FASB)

Generally accepted accounting principles (GAAP)

HyperText Markup Language (HTML)

Indonesia Stock Exchange (IDX)

Innovation Diffusion Theory (IDT)

International Accounting Standards (IAS)

International Federation of Accountants (IFAC)

International Financial Reporting Standards (IFRS)

Internet Financial Reporting (IFR)

Internet for investor relations (IIR)

Investor relations (IR)

Investor Relations Society (IRS)

London Stock Exchange (LSE)

Market/book ratio (MBR)

Ministry of Finance (MOF)

Multivariate Analysis of Variance (MANOVA)

Muscat Securities Market (MSM)

National Association of Securities Dealers Automated Quotations (NASDAQ)

National Congress of the Communist Party of China (CPC)

New York Stock Exchange (NYSE)

New Zealand Stock Exchange (NZX)

Organization for Economic and Co-corporation and Development (OECD)

People's Bank of China (PBOC)

Portable Document Format (PDF)

Qualified Domestic Institutional Investor (QDII)

Qualified Foreign Institutional Investor (QFII)

Random-Effects (RE)

Securities and Exchanges Commission (SEC)

Shanghai Stock Exchange (SHSE)

Shenzhen Stock Exchange (SZSE)

State Council's Securities Commission (SCSC)

State-owned enterprises (SOEs)

Stock Exchange of Hong Kong (SEHK)

The United Kingdom of Great Britain and Northern Ireland (UK)

The United States of America (US)

Toronto Stock Exchange (TSX)

Traditional Financial Reporting (TFR)

Variance Inflator Factor (VIF)

World Trade Organization (WTO)

Chapter 1 Introduction

1.1 Background

Developments in information and communication technologies have changed the ways in which companies relate to their shareholders, clients and suppliers. One such change is the use of the Internet for corporate reporting (Lymer, Debreceny, Gray & Rahman, 1999) particularly when in the case of investor relations. Marston (1996, p. 477) defines Investor Relations (IR) as "the link between a company and the financial community, providing information to help the financial community and the investing public evaluate a company". In a broader context, IR activities function as an instrument to reduce information asymmetry between a firm and market participants by providing information that may be relevant to the pricing of the company's shares (Deller, Stubenrath & Weber, 1999). Thus, Internet Investor Relations (IIR) provide a broad set of information on the financial performance of a company and non-financial information that may be of relevance to the financial market (Bollen, Hassink, Lang & Buijl, 2008). This activity is also referred to as Internet Financial Reporting (IFR), which can be defined as "the public reporting of operating and financial data by a business enterprise via the World Wide Web or related Internet-based communications medium" (Lymer et al., 1999).

A large number of descriptive and explanatory studies have dealt with IFR in developed countries. However, very little research has examined IFR in China (Xiao et al., 2004; He and Zhang, 2007), one of the fastest growing economies in the world. The number of companies listed on China's two main Stock Exchanges, the Shanghai and the Shenzhen, reached 2,537 by the end of February, 2014, while the total market capitalisation of China's stock market boomed to 23,756.61 billion RMB (UK£2,375.67 billion) (CSRC, 2014). An issue, which affects the Chinese stock markets, is the lack of transparency and corporate disclosure among Chinese listed companies. To maintain the confidence of the Chinese capital market and international investors, transparency in corporate disclosure practices is demanded (Groom et al., 2004). IFR provides one type of voluntary disclosure, which helps to achieve transparency by disseminating timely information in various ways, using easily accessible tools that serve the interests of all market players.

Empirical studies confirm the role of corporate governance in determining corporate transparency (Beasley, 1996; Gul et al., 2010). While in the corporate world, and in most developed countries ownership and control are separate, major listed companies on the Chinese Stock Exchanges are ultimately controlled by central or local government; namely, they are state owned. To completely reform the capital market, the Chinese government had to implement procedures to convert state-owned shares to tradable shares (CSRC, 2005). Despite the ongoing reform, ownership structure remains a significant corporate governance issue. High state ownership and legal person ownership in China result in traditional agency issues between controlling shareholders and minority shareholders. Thus, this unique setting in China provides an excellent perspective from which to empirically examine the relationship between corporate governance and IFR in a market dominated by state owned enterprises.

Additionally, prior research suggests that the return required by investors on their investment decreases with improvements in the voluntary disclosure of valuable information by the firms in question (Diamond and Verrecchia, 1991). Moreover, empirical studies carried out by Barry and Brown (1985) and Botosan (1997) found voluntary disclosure helps to reduce the cost of capital. Some IFR studies report an association between IFR and firm value. Silva and Alves (2004) reported on the existence of a significant association between IFR and firm value in Argentina, Brazil and Mexico according to the Tobin's Q. Meanwhile, Garay et al. (2013) found that an increase of 1% in an IFR disclosure index causes a 0.1592% difference in the Tobin's Q and an increase of 0.0119% in firms' Return on Assets (ROA) in seven stock markets in Latin America. Conversely, some recent studies have indicated that the belief that voluntary disclosure lowers the cost of capital and increases firm value may not hold true for all stock markets. Lan et al. (2013) examined 1066 Chinese listed companies and found no evidence of extensive voluntary disclosure benefits for listed companies in China in the form of lower capital costs. Their analysis suggests that voluntary disclosure in the Chinese stock market may have a very different impact that it has on other stock markets. This research seeks to provide important insights into accounting issues by examining the economic impact of IFR disclosure and other corporate governance factors on Chinese listed companies.

1.2 Problem statement

In the last decade, accounting research in the context of China has increased. This reflects both the rise of China as a global economic force and the unique context of China as an interesting setting for providing insights into to the role of accounting (Radhakrishnan, 2014). The development of China's stock market has been characterised by excessive administrative control and intervention, a lack of transparency, and an underdeveloped legal and regulatory framework (Cheung et al., 2010). Institutional features, such as ownership structure, board monitoring, the incentives of managers, and managers themselves, all have an important impact on financial reporting outcomes. China provides an excellent setting in which to examine the role of accounting and agency issues (Radhakrishnan, 2014) and conflicts between controlling and non-controlling shareholders. Disclosure is important to mitigate asymmetric information and agency problems; therefore, research on IFR in the Chinese context could produce valuable insights into how agency issues relate to the quality of voluntary financial reporting.

To create a more attractive business environment and improve the efficiency of the Chinese stock market, the CSRC initiated major corporate governance reforms to promote disclosure transparency in 2001. In January 2002, the CSRC issued its own code of corporate governance for listed companies in China, prescribing a desired corporate governance structure. The measures highlighted the importance of transparency and established corporate governance requirements. The code aims to increase the confidence of investors, strengthen the capital market and improve the accountability and credibility of the financial information provided by listed companies. In terms of information disclosure methods, the CSRC acknowledged a large number of individual investors in China require listed companies to make information available not only at company's premises, on the stock exchange, and at relevant licensed brokers and branches, but also via financial reports in a specified publication and on the internet (Qu and Leung, 2006). Therefore, the transformation of the disclosure environment is expected to motivate listed companies to improve disclosure transparency and make information disclosure more external-user oriented (Qu et al., 2013).

In addition, the effect of disclosure level on the cost of capital is of considerable interest and importance to the financial reporting community (Botosan, 1997). Internet disclosure is considered highly cost effective. It helps to overcome manifestations of

market failure, such as asymmetric information in the capital market and agency problems. As a result, companies might enhance their market valuations by improving their voluntary disclosure of information on their websites. The question of whether disclosure reduces the cost of capital is of interest in its own right, as the growing complexity of China's market is resulting in calls for a clearer understanding of IFR and its economic impact, which will benefit investors, public companies and regulators alike.

1.3 Research objectives and research questions

Previous accounting literature states that the IFR is a form of voluntary disclosure practices, IFR refers to the use of corporate websites in disseminates information about the company's financial performance. The purpose of this study is to examine the IFR in the Chinese context; the main aim being to investigate the practices and determinants of IFR in Chinese companies and participants' perceptions of IFR. This study has three main objectives: first, to examine the provision of financial information voluntarily disclosed on the websites of Chinese public companies and identify the factors determining the voluntary financial information on such websites; second, to examine the economic consequences of IFR on a company's value in China; and, third, to investigate the perceptions of Chinese participants of Internet financial reporting. The three main objectives are described below:

Objective 1: To examine the provision of financial information on the websites of Chinese public companies and identify the factors determining the financial information on such websites.

The purpose of this study is to provide useful descriptive and empirical information about the financial information disclosed by Chinese public companies on their websites (where they have a website) and how this information can be evaluated. The study examines the determinants of company specific variations in IFR, i.e. company size, profitability, leverage, industry type and auditor type. In addition, China has been undergoing gradual corporate governance reform. It is expected that corporate governance mechanisms, such as share ownership structure, board size, CEO duality (CEO duality means that the position of the Chief Executive Officer (CEO) and chair positions occupied by one person) (Haniffa and Hudaib, 2006), and board independence (measured by proportion of independent directors to total directors) relate to IFR.

Furthermore, since prior explanatory studies were purely quantitative in nature, this study will also investigate additional factors by conducting semi-structured interviews with companies' participants, to identify the motivation behind constructing and renewing websites and to explain the reasons why some companies have not created a website.

In order to address the research objective 1, the following general research questions need to be answered:

RQ1: What are the scope and patterns of IFR and its components by Chinese listed companies?

RQ2: Is there any difference between bigger listed companies and smaller listed companies with regard to IFR and its components?

RQ3: What company specific factors determine the level of IFR and its components by Chinese listed companies?

RQ4: What are the corporate governance factors that determine the level of IFR and its components by Chinese listed companies?

RQ5: What factors influence whether Chinese listed companies disclose the English version of IFR?

RQ6: What factors influence whether Chinese listed companies disclose financial information on their websites?

RQ7: In the companies' participants' view what are the additional factors that determine the level of IFR and its components by Chinese listed companies?

RQ8: In the companies' participants' view what factors influence the non-financial disclosure of IFR by Chinese listed companies?

RQ9: Why have some companies not set up websites yet?

Objective 2: To examine the economic consequences of IFR on a company's value

The decision by a firm's management to disclose information about its underlying performance is likely to involve a trade-off between the direct and indirect costs incurred when providing such information and the benefits derived by the firm or its shareholders from such disclosure (Scott, 1994). Numerous studies have examined the economic benefits of IFR in a variety of contexts. These contexts include stock price

reactions to IFR, the cost of capital and firm value. However, no China-based study links the quality of IFR with any one of these contexts. This provided the motivation to undertake an IFR study based on data relating to China. Using the survey data as a basis, the study examines the impact of IFR on a company's value; examining whether the total index, the content, the presentation, the timeliness and the usability affects a company's value. The company's value can be measured using the Tobin's Q ratio and Market/book value. Tobin's Q is calculated on the basis of the relationship between the market value of the company and the book value of its assets.

In order to address the research objective 2, the following general research questions need to be answered:

RQ10: Is there any significant difference between the bigger and smaller Chinese listed companies' firm value?

RQ11: Is there any significant difference between the firm values of Chinese listed companies with an English version of IFR and those without?

RQ12: Is there any significant difference between the firm values of Chinese listed companies that disclose financial information on their websites and those who do not?

RQ13: How do IFR and its components impact on Chinese listed companies' firm value?

Objective 3: To investigate the perceptions of Chinese participants of Internet financial reporting.

Davis (1989, P.320) defined perceptions as falling into two categories: perceived usefulness, meaning "the degree a user believes that a particular aid would enhance his performance"; and perceived ease of use meaning "the degree to which a user believes that using a particular aid would reduce or be free of effort". Prior studies have revealed that disclosing financial information on a company's website is beneficial to users for several reasons, including timely delivery of information at low cost. Accordingly, this study attempts to identify the main advantages of Internet reporting, from the perspective of participants in China. The literature review also identifies many problems caused by Internet reporting, such as information overload and issues relating to data integrity as well as confidentiality. Consequently, this research addresses the issues relating to the development of company websites. Additionally, it also proposes the participants' suggestions on ways that IFR could be improved.

In order to address the research objective 3, the following general research questions need to be answered:

RQ14: What are the perceptions of IFR from the participants in China's perspective?

RQ15: How, from the participants in China's perspective, can IFR be improved?

1.4 Research methods adopted in this study

The approach to this study combines quantitative and qualitative research methods, with emphasis on quantitative research methods. Triangulation is defined as the use of different research approaches and techniques in the same study to increase the validity of the findings (Collis and Hussey, 2003). In this thesis, content analysis and semi-structured interviews with Chinese participants are used to elicit information about the participants' views regarding IFR. Table 1.1 presents the research methods adopted in this study.

To build a disclosure index, the study updated previous checklists (by Abdelsalam et al., 2007; Marston and Polei 2004; Xiao et al., 2004; Debreceny et al., 2002). The more comprehensive measurement instrument made it possible to draw conclusions regarding how the specification guidelines issued by CSRC in 2005 and the corporate governance report on Chinese listed companies (CSRC, 2005) affected Internet reporting practice. The index was divided into four categories: content - which included accounting and financial information; corporate governance information; social responsibility information and contract details information; timeliness of information, presentation and usability. Semi-structured interviews with the participants in the companies were carried out to discover the motivation behind constructing and renewing websites and to identify the reasons why some companies had not created their own websites. The interviews will also yield some suggestions for IFR development in China.

Table 1.1 Research methods adopted in this study

Research Objectives	Research questions	Research types	Data answering research questions	Analysis technique	Answers
Objective 1	RQ1	Quantitative research	Content analysis (Disclosure index)	Descriptive Statistics	Chapter 6
	RQ2	Quantitative research	Content analysis (Disclosure index)	Descriptive Statistics	Chapter 6
	RQ3	Quantitative research	Content analysis (Disclosure index)	Pearson correlation test, Spearman' rho correlation test and OLS regressions	Chapter 6
	RQ4	Quantitative research	Content analysis (Disclosure index)	Pearson correlation test, Spearman' rho correlation test and OLS regressions	Chapter 6
	RQ5	Quantitative research	Content analysis (Disclosure index)	Logistic regressions	Chapter 6
	RQ6	Quantitative research	Content analysis (Disclosure index)	Logistic regressions	Chapter 6
	RQ7	Qualitative research	Semi-structured interviews		Chapter 8
	RQ8	Qualitative research	Semi-structured interviews		Chapter 8
	RQ9	Qualitative research	Semi-structured interviews		Chapter 8
Objective 2	RQ10	Quantitative research	Secondary data	Mann-Whitney test and T test	Chapter 7
	RQ11	Quantitative research	Content analysis (Disclosure index)	Mann-Whitney test and T test	Chapter 7
	RQ12	Quantitative research	Content analysis (Disclosure index)	Mann-Whitney test and T test	Chapter 7
	RQ13	Quantitative research	Content analysis (Disclosure index)	Pearson correlation test, Spearman' rho correlation test and OLS regressions	Chapter 7
Objective 3	RQ14	Qualitative research	Semi-structured interviews		Chapter 8
	RQ15	Qualitative research	Semi-structured interviews		Chapter 8

1.5 Research motivation and importance

The main motivation behind this research is to examine the level of IFR in China and assess the factors that are determining the scope of IFR. It examines the economic consequence of companies disclosing IFR, and participants' perceptions of IFR. The research covers several new areas, which have not been previously examined.

The first new area of the study is the use of a new method for constructing disclosure indices. The study is expected to provide a new approach to assess the extent to which companies disclose IFR on their websites. The content and presentation have been examined in earlier studies (Xiao et al., 2004; He and Zhang, 2007), but this study is distinctive in considering the content including accounting and financial information, corporate governance information, social responsibility information, contract details information, timeliness information, and presentation and usability to provide a clearer portrayal of Chinese listed companies engaged in IFR.

Emerging markets are important yet highly understudied subject, as noted in recent research on corporate governance in emerging markets (Claessens and Yurtoglu, 2013). The Chinese government recently highlighted corporate governance issues and emphasised its intention to improve the situation. The second new area is to shed light on whether corporate governance factors have improved IFR practices in China. Corporate governance factors include issues of ownership structure, board size, role duality (CEO also being on the board directors) and board independence (measured by the proportion of independent directors to total directors).

The third new area has to do with the fact that earlier explanatory studies were in the main purely quantitative in nature. This study employs semi-structured interviews to identify issues, which cannot be explained with a statistical model. It sheds light on how the combination of quantitative and qualitative approaches can better explore complicated accounting phenomena. Additionally, this study differs from prior studies conducted in the same area because it not only examines the factors that led companies to adopt IFR practices but also investigates the factors that influenced companies not to disclose information on their websites.

The fourth element, which makes this study innovative relates to the fact that prior empirical studies showed that IFR leads to a reduction in information asymmetry between managers and investors; therefore companies tend to benefit from a lower information asymmetry and from a lower cost of debt capital (Orens, 2010). Other

studies showed that IFR positively influences the firm's value (e.g. Cormier et al., 2009a; Garay et al., 2013). The Chinese stock market is still in its early stages and the investor protection environment is weak in comparison with developed countries. This makes it worthwhile to look at the economic consequences of IFR on Chinese listed companies, which is an area not previously examined.

The fifth innovation of this study is the addition of a new theoretical framework to existing IFR literature. Prior studies investigating the determinants of IFR theories in China ignored the cost and benefit approach (Xiao et al., 2004; He and Zhang, 2007). This study considers institutional theory and the innovation diffusion theory as well as agency theory, signalling theory, and the cost and benefit approach. The theoretical triangulation applied in this thesis has provided a broader understanding of IFR practices.

Sixthly, although prior research details the increasing supply of IFR there is lack of empirical research investigating the participants' perceptions of this information. This research investigates the perceptions of Chinese participants of IFR. Through semi-structured interviews with participants, the research gained an insight into the advantages and problems apparent in current IFR practice, with specific reference to the implementation of IFR for the purposes of development and improvement.

It is expected that this research will be beneficial to regulators, professional bodies, investors, companies and academics. From the regulators' perspective, the understanding of IFR practices in China could help formulate future policy to protect investors and improve trust in and the quality of Internet reporting information. From the professional bodies' point of view, the study may help to standardise IFR content, to define codes of conduct and rules and make recommendations. From the investors' perspective, this study helps clarify the disclosure practice of Chinese listed companies thus encouraging investors to consider the disclosure characteristics outlined in this study when making investment decisions. From the companies' perspective, disclosing IFR on their websites and having high disclosure levels helps investors to search, obtain and download the required information, thus attracting more potential investors. From the academics' point of view, the study may help explain IFR and its key determinants and how IFR impacts on firm value in China. This research provides useful insights into how agency issues and the unique institutional framework are related to IFR, which is useful for future research in the area of emerging markets.

1.6 Thesis structure

The thesis is structured as follows. The chapter following the introduction provides background information about the development of financial reporting regulations, stock markets and corporate governance in China. It helps to explain Chinese characteristics affecting IFR practices. It also gives an overview of Internet development in China. Additionally, the regulatory environments regarding IFR in different countries are reviewed in this chapter.

Chapter three reviews prior research concerning four research fields: (1) descriptive studies providing an overview of the use of the internet for disseminating financial reporting in certain countries; (2) explanatory studies providing a theoretical background for their analysis and considering differences in practice, focusing on linking independent variables to IFR; (3) research relating to the economic consequences of IFR investigating how IFR impacts on the firms' value, stock prices and capital; and (4) stakeholder perceptions on IFR explaining the benefits and issues of adopting IFR and other factors that lead companies to adopt IFR practice. The chapter starts by outlining the main published papers regarding IFR. It also provides more discussion about the research of IFR in China. The chapter ends by describing how this study addresses the gaps left by prior studies.

The theoretical foundations of IFR activities are outlined in chapter four. The chapter reviews the literature regarding agency theory, signalling theory, the cost and benefit approach, institutional theory and discusses how those theories can be applied in this study to help better understand what factors influence the information that companies post on their website. Based on these theories, eleven hypotheses are developed to examine the factors determining the impact of IFR and its components on Chinese listed companies. Prior research has found that the management's incentive in disclosure decisions is to minimise the firm's cost of capital (Richardson and Welker, 2001) and maximise firm value (Core, 2001). One hypothesis regarding the economic consequences of IFR and its components on Chinese listed companies are therefore generated.

Chapter five presents the research methodology and research methods used and outlines the assumptions of epistemology, ontology, and methodology. This study is designed to be a concurrent quantitative-dominant mixed methods research, in which quantitative and qualitative data are collected and analysed, with more emphasis placed on

quantitative data. A web survey and semi-structured interviews are employed in the study. To carry out the analysis a disclosure index is created on the basis of the information provided by companies. All the variables having an impact on the study are identified in this chapter. Finally, this chapter discusses the process of the semi-structured interview method, including the reliability and validity of qualitative research and related ethical considerations.

Chapter six discusses the empirical results obtained through the quantitative study. The quantitative models are based on the extant literature taking into consideration the availability of data. The chapter starts with a description of the data obtained and then presents a univariate analysis. The OLS regression technique and logistic regression technique are employed to test those constructed models. Additional sensitivity analysis is carried out by using the alternative weighting system of IFR content and other components, including the measurements of company size and profitability.

Chapter seven presents the empirical results relating to firm value measured according to Tobin's Q and the Market/book ratio. As mentioned in chapter three, previous studies have examined the factors determining IFR practice (He and Zhang, 2007) but ignored the economic impact of IFR on firm value. In response to the call for more research examining the relationship between IFR and firm value (e.g., Xiao et al., 2004; Trabelsi et al., 2008), three years of firm value data (namely, 2010, 2011 and the average of 2009, 2010 and 2011) was collected and tested to find out the economic consequences of IFR and its components. The results of the descriptive study, the univariate analysis and the multivariate regression analysis are presented in this chapter.

The empirical results generated from the qualitative study are presented in chapter eight. The results of previous studies (Xiao et al., 2004) indicate that part of the variation in IFR of Chinese listed companies has not been captured by the statistical models. This highlights the need to identify other factors influencing IFR practices. Opinions gathered from participants positioned to influence IFR might help to identify such other influencing factors. The qualitative component of this study has the potential to explore the motivation behind IFR from the participants' point of view. Additionally, the advantages and limitations within IFR practice are also presented in this chapter, along with future incentives to improve IFR on corporate websites.

Chapter nine concludes this thesis. It provides a summary of the main findings of this study, and outlines the contributions that this thesis makes to the body of existing

literature and knowledge in this area. It also outlines the limitations of this study and puts forward suggestions for future research.

Chapter 2 Contextual analysis

2.1 Introduction

This chapter provides background information about the development of financial reporting regulations, stock markets and corporate governance in China (Section 2.2, 2.3, 2.4). It helps to explain the Chinese characteristics affecting IFR policies and practices. Section 2.5 gives an overview of Internet development in China. Section 2.6 discusses the regulatory environment regarding IFR. Finally, section 2.7 provides a summary.

2.2 Development of financial reporting regulation in China

Since China adopted a policy of openness toward the outside world in 1978, it has undergone the practices and consequences of economic reform and transition from a formal centrally planned economy to a market-oriented economy. Developments in Chinese Accounting have also been undergoing a radical transformation. In 1985, the National People's Congress issued "The Accounting Law", to specify the responsibilities of accountants, measurement processes, and the principles of accounting transactions. The Accounting Law provides a fundamental legal framework for ensuring uniform accounting practice, and corporate financial reporting by corporate entities. Under the Accounting Law, all corporate entities are required to prepare and present financial statements. The Accounting Law includes provisions to help ensure each enterprise discloses a true and fair opinion of its financial performance in its reports. Chapter IV of the Accounting Law requires each corporate entity to establish its own internal accounting supervision system. This is to ensure that all enterprises follow a systematic approach to maintaining books and accounts, and when preparing financial statements. Top management must not exercise undue influence over accounting personnel by manipulating measurements or failing to disclose financial information.

After implementation of Company Law in 1993, managers were obliged to guarantee the probity of financial statements. Company managers are responsible for ensuring timely preparation of annual financial statements, which reflect a true and fair view of the corporate entity's financial condition and its operating results. According to Article 166 of Company Law, management is also responsible for submitting a corporate

entity's audited financial statements to a general shareholders' meeting, within four months of the end of the financial year.

In 1998, the Securities Law was issued, requiring listed companies' financial statements to also incorporate non-financial information; a policy intended to facilitate the informed decision making process. Article 65 of the Securities Law requires that, apart from providing operating results, listed companies' financial statements must focus on information relating to: (a) the general business condition of the company, (b) any company involvement in major litigation, (c) changes to the number of shares issued, and (d) any important matters submitted during the annual general meeting for shareholders' consideration. In addition, Article 66 of the Securities Law calls for information briefly introducing the directors and senior managers of the company, data on shares and corporate bonds issued, the top 10 company shareholders and the proportion of their shareholdings. Combining financial and non-financial information assists readers of financial statements to obtain a broader insight into the state of a company's affairs (World Bank, 2009).

According to the statutory framework of China, the Ministry of Finance (MOF) is primarily responsible for regulating accounting and auditing practices. In 1992, the Ministry of Finance (MOF) issued, the "Accounting Regulation for Experimental Listed Companies". This was a landmark moment for the Chinese accounting system. Effective since July 1993, the Accounting Standards for Business Enterprises (ASBE) forms the basis of the conceptual framework for financial reporting in China. The ABSE identifies objectives and users of financial accounting, and qualitative characteristics relating to information and definitions of the elements on financial statements. Under a legal mandate, the MOF issues Chinese Accounting Standards (CAS), and the Ministry of Finance issues the Chinese Standards on Auditing (CSA).

The development of new Chinese accounting standards has been an important step for the development of the Chinese economy; it is experiencing increasing integration into the global capital markets. On 15 February 2006, the MOF formally announced the issuance of new Accounting Standards for Business Enterprises (ASBEs), comprising new basic Standards, specifically, the 38 Specific ABSEs and Implementation Guidance. The ABSEs cover nearly all topics disclosed under current International Financial Reporting Standards (IFRSs). The ASBEs came into force, for all listed

Chinese enterprises, on 1st January 2007. Other Chinese enterprises have been encouraged to apply the ABSEs, except in the case of certain modifications, which reflect China's unique circumstances and environment (Deloitte, 2006). In response to a call from the G20 and the Financial Stability Board (FSB) on establishing global uniform accounting standards, the MOF prepared a roadmap for full convergence of CAS with the IFRS (Deloitte, 2006).

2.3 Development of Stock Markets in China

The China Securities Regulatory Commission (CSRC) regulates the Shanghai Stock Exchange and the Shenzhen Stock Exchange; they were founded in 1990 and 1991 respectively. These capital markets opened up the investment process to individual investors, offering a means for non-state-owned enterprises (typically owned by collectives) to raise capital. The establishment of Stock Exchanges led to growth in many areas; as represented by the number of listed enterprises, market capitalisation, funds raised from share issuance, and trading volume. By 2001, China's financial markets had become the largest of any developing country. The number of listed enterprises had increased from 53 in 1992 to 2,537 in March 2014. Meanwhile, the total market capitalisation of China's stock market boomed, rising from RMB 104.81 billion in 1992, to RMB 23,756.61 billion in 2014 (that is, increasing more than 200 times in 23 years) (CSRC, 2014).

Chinese companies operate under a unique ownership structure, which differs from that of their Western counterparts. A dominant feature of share ownership in China is the non-tradable equity ownership of the state. This is either through direct investment, or indirectly through holdings in domestic institutions (subsequently named legal persons), many of which are partially or wholly owned by central governments or local authorities. This characteristic is a product of the ongoing process of corporatisation and the partial privatisation of former state-owned companies, which began with the economic reform process in 1978, and has gathered pace in recent years. A typical listed Chinese company issues shares to five distinct classes of owners: (i) the state, (ii) legal persons, (iii) employees, (iv) domestic individuals and, finally, (v) foreign individuals or institutional holders. There are two major classes of non-tradable shares: state-owned shares and 'legal person' shares. Since April 2005, before commencement of non-tradable share reform, about two-thirds of shares issued were non-tradable (Li et al., 2009). The CSRC launched the non-tradable shares reform under the leadership of the

CPC and the State Council, intending to make non-tradable shares publicly tradable (Guo and Keown, 2009).

Tradable shares in China can be divided into A shares, and those denominated in a foreign currency, B shares. Originally A shares were only available to Chinese citizens and institutions for trade, while B shares were available exclusively to investors outside mainland China. The intention behind the issuance of B shares was to attract foreign-currency investment to China. In 1993, a number of selected Chinese mainland companies received permission to list on the Hong Kong Stock Exchange (HKSE), which trades in Hong Kong dollars; the shares issued in this case are H shares. In addition, some Chinese companies listed on the New York Stock Exchange (NYSE); their shares are termed N shares. However, following a reform dated 20 February 2001, domestic investors can also invest in B-shares.

In November 2002, the CSRC and the People's Bank of China (POBC) launched the Qualified Foreign Institutional Investor (QFII) scheme as a provision for foreign investors to participate in the phenomenal growth of the Chinese economy. A-shares have been available to QFII since 23 May 2003, in order to enhance the strength of institutional investors in the market, and to insure alignment with the commitments of China's World Trade Organisation (WTO) membership. The parallel Qualified Domestic Institutional Investors (QDII) scheme was launched officially in April 2006, allowing Chinese commercial banks to invest in financial products overseas, on behalf of Chinese institutions and residents. By the end of March 2013, 197 foreign institutions had licensed QFII investors, to grant a combined $41.745 billion of QFII quotas to invest in China's capital markets under the QFII program (Reuter, 2013).

Despite this rapid growth, however, high speculation, insider trading, insufficient shareholder protections, as well as false financial reporting by listed companies (Kwon, 2009) have limited China's stock market. The level of voluntary disclosure remains relatively low, leading investors to doubt the quality of reports issued. Typically, listed companies only disclose required items, and seldom provide data in advance of publication of annual reports (Haw et al., 2000).

2.4 Development of corporate governance in China

According to Charkham (1995), Corporate Governance (CG) refers to the relationship, responsibility, and dissemination of power and information among all market participants such as shareholders, management, administration, employees, stakeholders, capital market authorities and the government. Shleifer and Vishny (1997) define corporate governance as the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment. The initial aim in developing CG was to protect shareholders' rights, when investing in a listed company (Demirag, 1998; Whittington, 1993). Gillan and Starks (1998) argue that CG is a system of laws, rules, and factors that control activities in a company. Generally, CG can be classified into two categories: internal and external governance. Internal governance is primarily comprised of ownership and control; boards of directors and executives have unique characteristics reflected in their compensation; while external governance covers the production market, the takeover market, and the state regulatory system (Huson et al., 2001; Gillan, 2006).

Corporate governance issues have come to the fore in China since 1970, when the Chinese government launched its open door policy and began reforming the corporate policies of State Owned Enterprise (SOEs). Traditional SOEs were initially ideological organisations, created as work units to serve social and political purposes, rather than to meet economic objectives. The early economic reforms, which introduced a pricing system and profit incentives to SOEs, did significantly improve performance. The opening of the Chinese capital market accelerated the development of corporate governance in China. The key to a legal framework for CG in China consisted of Company Law in December 1993 and Securities Law in December 1998. Both laws were revised in 2004 and the changes became effective in 2006, providing a foundation on which to base a CG framework in China.

The revision of Company Law improved companies' governance structure and included mechanisms to protect lawful shareholders' rights and public interests. It highlighted the legal obligations and responsibilities of those control of companies, i.e. the directors, senior management and supervisors. It improved companies' financing and financial accounting systems and the systems governing corporate mergers, divisions and liquidation (OECD, 2011). The revised Securities Law improved the systems governing

issuance, trading, registration and settlement of securities, and provided for the establishment of a multi-tiered capital-market architecture. It improved the supervision of listed companies, making the issuance process more transparent, and established a mechanism for introducing a system to recommend/sponsor listings. It also increased the legal responsibilities of listed companies and rules on integrity, setting out the obligations of controlling shareholders, or those actually in control, namely the directors, supervisors and senior management (OECD, 2011).

In 2001, China joined the World Trade Organisation and agreed to adopt the OECD Principles of Corporate Governance to improve CG at Chinese listed companies. In order to establish a complete modern enterprise system and standardise the operating process of listed companies and securities, the CSRC also issued CG regulations. In January 2001, the CSRC issued a "Code of Corporate Governance for Listed companies" (Hereinafter referred to as "the code") in China. In January 2004, the CSRC issued a "Provisional Code of Corporate Governance for Security Companies" in China (CSRC, 2004). The code sets forth the basic principles for CG, to be followed by listed companies in China, to protect investors' interests and rights, outline basic behaviour rules and moral standards for directors, supervisors, managers and other members of senior management at listed companies (CSRC, 2004).

2.5 Internet development in China

Table 2.1 presents the world Internet users statistics. Up to June 30, 2012, the world population of Internet users was 7,017,846,922, representing 34.3% of the whole population worldwide. The growth rate of Internet users was 566.4% between 2000 and 2012. The Asian population of Internet users worldwide is 3,922,066,987; representing 27.5% of the Asian population, and 44.8% of the global population, and a growth rate of 841.9% from 2000 to 2012 (World internet users' statistics, 2012).

In terms of Internet development in China specifically, by the end of June 2013, the number of Internet users in China had reached 591 million, an additional 26.56 million users since the end of 2012. The Internet penetration rate was 44.1% of the population, an increase of 2.0% compared with that at the end of 2012.

Table 2.1 World Internet Usage

WORLD INTERNET USAGE AND POPULATION STATISTICS June 30, 2012						
World Regions	**Population (2012 Est.)**	**Internet Users Dec. 31, 2000**	**Internet Users Latest Data**	**Penetration (% Population)**	**Growth 2000-2012**	**Users % of Table**
Africa	1,073,380,925	4,514,400	167,335,676	15.6 %	3,606.7%	7.0 %
Asia	3,922,066,987	114,304,000	1,076,681,059	27.5 %	841.9 %	44.8 %
Europe	820,918,446	105,096,093	518,512,109	63.2 %	393.4 %	21.5 %
Middle East	223,608,203	3,284,800	90,000,455	40.2 %	2,639.9%	3.7 %
North America	348,280,154	108,096,800	273,785,413	78.6 %	153.3 %	11.4 %
Latin America / Caribbean	593,688,638	18,068,919	254,915,745	42.9 %	1,310.8%	10.6 %
Oceania / Australia	35,903,569	7,620,480	24,287,919	67.6 %	218.7 %	1.0 %
WORLD TOTAL	**7,017,846,922**	**360,985,492**	**2,405,518,376**	**34.3 %**	**566.4 %**	**100.0%**

(World Internet users' statistics, 2012)

By the end of June 2013, China had 464 million mobile Internet users, an increase of 43.79 million, compared with the end of 2012. By the end of June 2013, rural Internet users accounted for 27.9% of total users in China, reaching 165 million. This figure rose slightly compared with the figure in 2012, to 9.08 million. The ratio of Internet users using desktops dropped slightly to 69.5%, and by 1.1% compared with the figure at the end of 2012. Over the same period, the proportion of those using mobile phones to access the Internet rose to 78.5%. In June 2013, the ratio of Internet users using desktops continued to fall, while the ratio of Internet users using mobile phones rose swiftly. By the end of 2013, China had a total 14.70 million domain names, including 7.81 million ".CN" domain names; a rise of 4.0% compared with the end of 2012, accounting for 53.1% of total domain names in China; the number of ".CN" domain names reached 270,000. The total number of websites rose to 2.94 million (CNNIC, 2013).

According to (CNNIC, 2013), the fast rise in the number of Internet users is attributable to the following factors:

Firstly, guided by a series of state policies like the National Strategy for Information Development from 2006 to 2020, and the "Eleventh Five-Year Plan" for the Informatisation of the National Economy and Social Development, governments and relevant institutions in all areas inputted a large amount of money and manpower into the construction of network infrastructure to establish information service platforms to meet people's need for Internet access. The number of Internet users and level of Internet applications in use is not only an indicator of local Internet development, but a sign of the integration of informatisation correspondent with industrialisation.

Secondly, with progress in industrial technology, the recombination of network operators and the intensification of competition, the software and hardware environments associated with Internet access were optimised constantly. The Penetration of 3G technology facilitates the use of mobile phones at network terminals. Meanwhile, the constant decrease in the price of Internet access and users' terminal products, as well as the continuous improvement in product performance, and user experience, constantly lowered the threshold of Internet access.

Lastly, the public accesses the Internet actively. With social and economic development, people's living standards are also currently rising continuously. After material needs are satisfied to some extent, social communication and information acquisition become critical to modern life. Innovative interpersonal communication requires access to the Internet, as the media for communication. Additionally, a large number of migrant workers returned home from areas with Internet access amid the financial crisis, and spread understanding and familiarity with the Internet to the people around them; moreover, the multiplier effect of interpersonal messaging raised rural people's awareness and willingness to access the Internet.

Thus, the number of Internet users in China is now rising steadily; however, compared to countries that have had longer history of Internet adoption, Internet penetration in China is relatively low. However, with the fast growth of the national economy, and the constant improvements in network infrastructure, the penetration rate of the Internet is increasing.

2.6 Regulation environment regarding IFR

Regulators are playing an important role in protecting investors and improving the trustworthiness and quality of information reported on the Internet Financial reporting (Al-Shammari et al., 2007). Currently, several countries have issued guidance about IFR. This section, will introduce the regulatory environment, with regard to IFR, including that in the U.S.A, U.K., Europe, and Canada. The development of the Chinese regulatory body, the CSRC and the specification for the IFR, "Electronic information disclosure specification for listed companies", as published in 2005, will also be detailed.

There are no mandatory guidelines prescribing the content and presentation of the information on corporate websites in a comprehensive way. Currently, the development of standards for Internet reporting remains at the discussion stage (Marston & Polei, 2004). In 2002 the International Federation of Accountants (IFAC, 2002) issued a worldwide report encouraging discussion of this topic. Several countries have since issued guidelines for Internet Financial reporting. Below is a brief summary of these guidelines.

In the U.S., the Securities and Exchange Commission (SEC), the New York Stock Exchange (NYSE) and NASDAQ have issued requirements and recommendations regarding the timely dissemination of financial information (Matheson & Reynolds, 2004). In the U.K., the U.K. Companies Act Order 2000 (electronic communication) permits companies to fulfil some of their statutory reporting requirements by providing the required reports on their corporate websites (Rowbottom, Allam & Lymer, 2005). In a European context, Directive 2004/109/EC of the European Commission relates to the harmonisation of transparency requirements, and establishes the Internet as an acceptable means by which to communicate financial information (Commission of the European Communities, 2004). In 2003, the Toronto Stock Exchange (TSX) released Electronic Communications Disclosure Guidelines, strongly recommending all listed public companies to maintain a corporate website to make investors relations information electronically available.

A company's ownership and management structure greatly influence its disclosure strategy (Chau and Gray, 2002). The information environment of the Chinese stock market is characterised by strong state shareholding representation among listed

companies and conflicts of interest between majority and minority shareholders. Second, the state government and its regulatory agency, the CSRC have played a leading role in protecting minority shareholders, by pushing standards to establish a good corporate governance regime (Qu et al., 2013).

Although an increasing number of public companies are now owned by non-government entities, a majority of listed companies on the Chinese Stock Exchanges remain ultimately owned by central or local government (Lan et al., 2013). The unique ownership structure of listed companies has caused an agency problem, which is characterised by the conflict of interest between majority state ownership and minority public ownership (Xu and Wang, 1999). Companies with higher state ownership are expected to lack motivation to disclose IFR to public shareholders for two reasons. First, it is suggested that state shareholders are able to obtain information through internal channels (Xiao et al., 2004), and second, disclosure of IFR information to the stock market will enable public investors to more closely monitor management's related party transactions. Therefore, it is assumed that higher state ownership will weaken the pressure on a company to disclose IFR to public shareholders. Higher state ownership has also been associated with a lack of emphasis on efficiency and profitability, which implies a negative relationship between state ownership and disclosure (Ferguson et al., 2002).

To create a more attractive business environment and improve the efficiency of the Chinese stock market, The CSRC has initiated major corporate governance reforms to promote disclosure transparency, introducing the Chinese Code of Corporate Governance (2001), and the Code of Corporate governance for Security Companies (2004) in April 2005. The Chinese government also initiated an ownership reform program, aiming to eliminate various share ownership types and ensure all shares become legally tradable A-shares (Jiang et al., 2008). These measures were intended to highlight the importance of transparency and emphasised corporate governance requirements. The recommendations also aimed to increase the confidence of investors, strengthen the capital market and improve the accountability and credibility of the financial information provided by listed companies. Therefore, this transformed disclosure environment is expected to motivate listed companies to improve their disclosure transparency and make information disclosure more external-user oriented (Qu et al., 2013).

Compared to developed countries, the regulatory mechanisms for the stock market are still in the development stage in China. Only recently have the CSRC and the two Stock Exchanges begun to emphasise procedures for standardising financial reporting and information disclosure by listed companies (Chen & Thomas, 2003). Therefore, China can draw many lessons from the experiences and legislative decisions of the developed countries mentioned above. At present, a major problem is the lack of availability of transparent and reliable accounting information to assist investors and other market participants to make decisions effectively (Lin & Chen, 2005).

In response to the spread of Internet reporting by firms worldwide, the CSRC also encourages listed companies to disclose information on their websites. Since 2000, in China, listed companies have been required to provide their full annual and interim reports, and prospectuses to the official Website of the CSRC (http://www.crsc.gov.cn), the SHSE (http://www.sse.com.cn) and the SZSE (http://www.cninfo.com.cn) (Xiao et al., 2004). In 2005, the CSRC published "Electronic information disclosure specification for listed companies", JR/T 0021-2004. This specification defined the quality of Internet financial reporting required: comprehensibility, relevance, materiality, timeliness, reliability and completeness. Disclosure of more details, such as social reporting, sales of key products, market share of key products, earnings or sales forecasts, and historical share prices, share price performance in relation to the stock market index, and the difference between the IAS and China GAAP, are also encouraged but not mandatory (CSRC, 2005). The purpose of the specification is to improve the quantity and quality of the financial information disclosed on the Internet. It encourages listed companies to post voluntary disclosures online, to improve investor relations. In 2008, the CSRC released its 5 year plan for Internet reporting, and adoption of the eXtensible Business Reporting Language (XBRL) format, to promote listed companies adopting to a new technology (CSRC, 2008).

With the development of regulatory guidance, prescribing the information disclosed on websites in certain countries, it is expected that regulatory recommendations and requirements will necessarily lead to an increase in companies disclosing more information on their websites. The specifications issued by the CSRC in 2005 suggest that there will also be an increase in Chinese listed companies disclosing more information on their websites.

2.7 Cultural environment and IFR

Culture is a concept that has been studied, researched and discussed for thousands of years. It influences every aspect of society, far beyond what is commonly admitted. An understanding of cultural relativism is important in the evaluation of diverse accounting systems and those undergoing changes (Secord and Su, 1994). Hofstede (1980, p 5) refers to culture as 'the collective programming of the minds that distinguishes the members of one group from another'. Hofstede (1980) classified culture into five dimensions, namely high versus power distance, individualism versus collectivism, high versus low uncertainty avoidance, masculinity versus femininity, and long versus short-term orientation.

Gray's study represents an attempt to apply Hofstede's model to accounting by identifying the mechanism whereby societal values are associated with the accounting sub-culture, which directly influences accounting practices. Gray identified four accounting values linked to societal values: professionalism versus statutory control; uniformity versus flexibility; conservatism versus optimism; and secrecy versus transparency (Chow et al, 1995). Gray suggested that 'a methodological framework incorporating culture may be used to explain and predict international differences in accounting systems and patterns of accounting development internationally' (Gray, 1988, p 5).

In the context of China, Bond et al. (1988) identified the historical root of Chinese culture as Confucian traditions, which emphasise thrift and perseverance, virtues, associated with long-term orientation. Confucianism addresses the power of human beings; that is, the country is regulated by the rule of man rather the rule of law (Faure and Fang 2008). The Confucian principle of harmony has greatly influenced Chinese society, pervading almost every aspect of social life within the country (Tian 2007). In Hofstede's terminology, Chinese society can be characterised as having large power distance, high levels of collectivism, strong uncertainty avoidance, less masculinity and long-term orientation (Chow et al., 1995).

According to Gray's (1988) cultural model, China's accounting development and practices should support statutory control, uniform practices, a conservative measurement approach, and secrecy in reference disclosure. Statutory control and the enforcement of accounting systems echoes the Confucian heritage that establishes the hierarchical nature of society. As a society marked by strong uncertainty avoidance and

a long-term orientation, China adopts a conservative approach both in accounting measurement and when adopting new accounting practices. In a collectivist society, companies are more inwardly focused, which can create secrecy, resulting in limited disclosure of information in China. Furthermore, organisations operating in a society with large power distance like China may feel unwilling to share private information with the public, so their disclosures will be more limited. Meanwhile, strong uncertainty avoidance means the preference for secrecy is relatively high, leading to a preference for the concealment of information. Thus, Chinese firms would be expected to adhere to rules and regulations and disclose minimal information voluntarily in their annual reports. Thus, it is argued that Chinese culture does not promote voluntary disclosure (Huafang and Jianguo, 2007). In relation to the specific case of IFR, it is expected that due to the high levels of collectivism and strong uncertainty avoidance, which lead Chinese people to view conflict and change as threatening, they will resist change and be less willing to adopt IFR practices.

However, the Chinese cultural environment has undergone some dramatic changes in response to the recent economic reform and open-door policy. Accounting reforms launched since the 1980s have aimed to establish a new framework for regulating financial reporting suited to China's recently emerged socialist market economy. The adoption of accounting standards in 1993 marked a turning point in China's accounting history, as it moved from a rigid and uniform approach towards a more international Anglo-Saxon orientation (Chow et al., 1995). Ralston et al. (1999) suggest that the new generation of managers scored much higher on values consistent with individualism, but scored lower on traditional Chinese values such as collectivism and Confucianism. This cultural change is a consequence of the government's "open-door" policy, which has encouraged younger Chinese managers to act more independently, openly, and to take risks in the pursuit of profit, even when their actions are in conflict with traditional practice. Indeed, according to Qu and Leung (2006), despite the high level of secrecy within Chinese society, Chinese listed companies are now more willing than in previous decades to provide voluntary information in their corporate annual reports. In essence, this finding demonstrates that disclosure in Chinese society has improved, despite the argument that the society is generally secretive (Qu and Leung, 2006). In terms of IFR, voluntary disclosure will also be greatly influenced by adoption of cultural change. Presumably, in line with their western counterparts and pressure from both domestic and international investors, Chinese listed companies will be willing to publish Internet

reports and disclose financial data, which exceeds the current disclosure requirements.

2.8 Summary

This chapter has explained the current financial reporting environment of China. It has provided information about the development of Chinese financial reporting systems, the development of the Chinese stock markets, and CG systems in China. Internet usage statistics were reviewed and regulations linked to Internet financial reporting were discussed. Such reporting is essential for a better understanding of the factors influencing IFR practices, as will be discussed in following chapters.

Chapter 3 Prior research on Internet Financial Reporting

3.1 Introduction

This chapter reviews selected studies to date concerned with Internet Financial Reporting (IFR). The first set of studies (section 3.2) is descriptive studies, including single country studies and international comparative studies, to provide a picture of what information, content and formatting features are available on company's websites. The second set of studies (section 3.3), partially overlaps the first set, and presents explanatory quantitative studies to examine what factors determine companies' disclosure of IFR on their websites. These factors include, for example, company specific factors and corporate governance factors. The third set of studies (section 3.4) investigates the economic consequences of IFR disclosure, the impact of IFR on firm value, the cost of capital, and stock prices. The fourth set of studies (section 3.5) focuses on stakeholder perceptions of IFR, and discusses the advantages and issues associated with developing IFR. Finally, IFR studies in China are reviewed in section 3.6 and the gap in the research in this area is identified in section 3.7.

3.2 Descriptive research

Early descriptive research studies provided an overview of the use of the Internet for disseminating financial reporting in carefully chosen developed countries. These included studies in the USA: Louwers, Pasewark and Typpo (1996), Petravik and Gillett (1996), Flynn and Gowthorpe (1997), Debreceny and Gray (1997), Ashbaugh, Johnstone and Warfield (1999), Deller, Stubenrath and Weber (1999), Ettredge, Richardson and Scholz (2001), FASB (2000). Studies in the UK: Marston and Leow (1998), Hussey, Guiliford and Lymer (1998), Deller, Stubenrath and Weber (1999), Hussey, Guiliford and Lymer (1998), Craven and Marston (1999). Finally, European studies: Lymer and Tallberg (1997), Gowthorpe and Amat (1999), Deller, Stubenrath and Weber (1999), Pirchegger and Wagenhofer (1999), Brennan and Hourigan (2000), Brennan and Kelly (2000), Lybaert (2002), Debreceny and Gray (1999). The majority of these studies focused on listed companies. Table 3.1 below presents some early research results from scholars who conducted descriptive research.

Table 3.1 Prior descriptive research

US	Data collection date	Population	Corporate website (%)	Financial data on site (%)
Louwers, Pasewark and Typpo (1996)	March 1996	Top 150 Fortune 500 companies	65%	37%
Petravik and Gillett (1996)	May 1996	Top 150 Fortune 500 companies	69%	55%
Flynn and Gowthorpe (1997)	December 1996	Top 100 Fortune 500 companies	89%	>71%
Debreceny and Gray (1997)	Late 1996	50 Largest US industrial corporations	98%	69%
Ashbaugh, Johnstone and Warfield (1999)	November 1997 - January 1998	290 Non-financial US listed companies	87%	70%
Deller, Stubenrath and Weber (1999)	January 1998	Top 100 Standard & Poor companies	95%	91%
Ettredge, Richardson and Scholz (2001)	May 1998	259 AIMR companies plus 231 Compustat computer technology and biotechnology companies	82%	>80%
FASB (2000)	January 1999	Top 100 Fortune 500 companies	99%	93%
UK				
Marston and Leow (1998)	November 1996	FT-SE 100 companies	63%	45%
Hussey, Guiliford and Lymer (1998)	August 1997	FT-SE 100 companies	75%	54%
Deller, Stubenrath and Weber (1999)	January 1998	FT-SE 100 companies	85%	72%
Hussey, Guiliford and Lymer (1998)	March 1998	FT-SE 100 companies	91%	63%
Craven and Marston (1999)	July 1998	Largest 200 UK companies	74%	71%
Europe				
Lymer and Tallberg (1997)		All 72 Finnish listed companies	90%	
Gowthorpe and Amat (1999)	July 1998	All Spanish listed companies	49%	19%
Hedlin (1999)	September 1998	60 listed Swedish companies	98%	83%
Deller, Stubenrath and Weber (1999)	January 1998	Top 100 DAX companies	76%	71%
Pirchegger and Wagenhofer (1999)	December 1997 December 1998	32 companies listed on the Vienna Stock Exchange	72% 88%	63% 82%
Brennan and Hourigan (2000) Brennan and Kelly (2000)	July 1998 July 1999	94 companies listed on the Irish Stock Exchange 99 companies listed on the Irish Stock Exchange	37% 67%	26% 56%
Debreceny and Gray (1999)	Late 1998	15 largest listed from each of UK, Germany and France	98%	82%
Lybaert (2002)	July 2000	188 AEX companies	86%	94%

(Resource: Smith and Pierce, 2005)

More recently, some studies have been carried out in less developed countries, including that of Dutta and Bose (2007) who examined IFR in Bangladesh. They examined 268 companies listed on the Dhaka Stock Exchange (DSE) and the Chittagong Stock Exchange (CSE), and only 38.81 percent of 268 companies were found to have websites. Another study involved a survey of IFR carried by Mohamed et al. (2009) in Oman. The authors investigated the practices of IFR by companies listed on the Muscat Securities Market (MSM) in Oman, and found that among the 142 companies listed on the MSM, only 84 operated websites, with even fewer (only 31) engaging in IFR.

One study covered a three-year period, offering a picture of IFR improvement in Croatia. Pervan (2009) examined voluntary Internet reporting amongst Croatian listed companies from 2005-2007. A 30 items IFR score was collected in 2005, 2006, 2007. The level of Internet disclosure was 6.85 in 2005, 7.31 in 2006, and 9.44 in 2007. The longitudinal data indicated increased use of Internet reporting. They concluded there is large scope for the improvement of Internet reporting practices in Eastern Europe.

Bozcuk et al. (2009) investigated the current state of IFR considering recent regulatory changes in the financial reporting environment at Turkish firms. They found a statistically significant increase in the number of firms providing financial disclosures on the internet, from 415 in 2003 to 438 in 2007. They also highlighted a number of problem areas, such as the extremely low level of voluntary disclosures and the apparent reluctance of listed firms to provide non-mandatory financial information. This research focuses not only on the quoted firms but also on large unlisted industrials. The research also benefitted from being conducted between 2003 and 2007, enabling the authors to provide data concerning the development of IFR within a 4-year period in Turkey.

Other studies carried out an IFR comparison within a single country between industry sectors. Malhotra and Makkar (2012) conducted research examining IFR practices in the Indian corporate sector and inter-sector comparisons. A sample of 50 companies from different sectors was covered in this study, and 35 index items created. The analysis of the results showed that about 80% of the sample companies provided both mandatory and voluntary information. The banking sector provided more extensive financial information than the other sectors. The paper suggests that greater emphasis should be

placed on the provision of up-to-date financial information, to include full annual reports, while presenting information on websites.

To facilitate their study of IFR by bank and non-bank listed companies in Indonesia, Pertiwi and Hermana (2013) built an IFR index comprised of four elements: content, timeliness, technology and user support. The final sample consisted of 25 banks and 9 non-banking listed companies in Indonesia. Similar to Malhotra and Makkar's (2012) results, the banking sector's IFR index score was reportedly higher than the IFR index score of the non-banking sector. Among the four catalogues of the IFR index, the user support score was higher than the content index, the timeliness index and technology index. Both the above studies concluded that the banking sector provided comparatively more abundant information on their websites than other sectors.

The following International comparative research offers a clear picture of how companies use the Internet for financial reporting across countries. International comparisons in the research are presented below:

Deller et al. (1999), in a survey of top 100 companies' websites (US, UK, and German firms), found that 91%, 72% and 71% of these firms use IFR. The results indicated that US companies provided better investor relations information via the Internet than their counterparts in the UK and Germany. Geerings et al. (2003) investigated investor relations activities on the Internet for companies listed on the Euronext Stock Exchange; screening the websites of the fifty largest listed companies in each of the countries. Belgium, France and the Netherlands were screened for investor relations items and more developed Internet practices were observed in France and the Netherlands than in Belgium.

A further study involved two Asian countries. Iqbal (2005) compared the IFR of Malaysian listed companies with those in Singapore, using a standard web browser to survey the websites of listed companies and collect data. One of the survey findings was that listed companies in Singapore have a greater web presence than those in Malaysia. Another major finding was that Singapore companies were more effective at utilising the potential the Internet had to offer when compared with companies based in Malaysia.

Oyelere et al. (2007) contributed to IFR research by examining and comparing the extent and variety of IFR practices among companies listed on the Muscat Securities Market (MSM) in Oman and the Bahrain Stock Exchange (BSE) in Bahrain. In total, 142 companies listed on the MSM and 51 companies listed on the BSE were investigated to ascertain whether they maintain websites, and/or if these sites were being used to communicate financial information. Only 124 of the listed companies in both markets were found to operate websites, with far fewer (only sixty-three) engaging in IFR. The results of this study indicate that IFR is still in the embryonic stages in Oman and Bahrain, and that there are multiple opportunities and challenges raised by corporate reporting for all stakeholder parties.

The review of the descriptive studies revealed great improvements in the use of IFR in the last decade, with the number of companies using IFR growing rapidly. Moreover, a significant number of companies in developed countries use the Internet for disclosing their financial information on websites, however, the study also showed that in some developing countries, the use of IFR is still in the embryonic stages. It is accurate to state that the use of the Internet to communicate financial information varies across countries.

The descriptive research reviewed has provided an overview of the current use of the Internet to communicate financial information and differences in Internet practices across countries. However, this data includes little theoretical grounding upon which to base an analysis. To add further depth, the explanatory studies carried out previously by scholars will be introduced next.

3.3 Explanatory research

3.3.1 Explanatory research in different countries

Explanatory researchers seek to explain the origins of findings by identifying systematic differences; their approach provides a theoretical background for their analysis and considers differences in practice, focusing on linking independent variables to aspects associated with the voluntary disclosure of financial information on the Internet. A wide range of independent variables are typically examined in explanatory studies, including size, profitability, leverage, free floating equity capital, foreign listings, the need for new equity capital, ownership and a corporate governance structure. These include

studies in the USA: Ashbaugh et al. (1999), Ettredge et al. (2002), and Kelton and Yang (2008). Studies conducted in the UK include: Marston and Leow (1998), Craven and Marston (1999), Abdelsalam and Street (2007) and Hegazy and Hegazy (2010). Marston and Polie (2004) provide a study of Germany. Studies in Spain include: Larrán and Giner (2001), Gandía (2008), Álvarez, et al., (2008) and García Sánchez et al., (2011). Studies in France include: Boubaker et al., (2012), Botti et al., (2013). Abdelsalam and EI-Masry (2008) provide a study of Ireland. Oyelere et al., (2003) provide a study of New Zealand. Studies in India include: Abdelsalam et al., (2004), Crag and Gakhar (2010), Manjinder (2013). Barako and Tower (2008) provide a study of Indonesia. Aly et al. (2010) provide a study of Egypt. Alali and Romero (2012) provide a study of Argentina. International studies include: Debreceny et al., (2002), Allam and Lymer (2003), Bollen et al., (2006), Pervan (2007), Ojah and Mokoaleli-Mokpteli (2012).

Table 3.2 illustrates the explanatory research conducted by scholars. Some of the studies concentrated on firm-specific characteristics, explaining IFR disclosure in a single country, whereas the others conducted international research comparing countries. They tested firm size, firm age, firm beta, leverage, liquidity, profitability, industry type, listing age and whether foreign listings relate to IFR disclosure or not. As the author explains below, the findings offer mixed results. The majority of researchers depict size and profitability as the most significant variables explaining IFR practice. However, some research has extended the literature by linking corporate governance factors with levels of IFR disclosure. Additionally, Gul and Leung (2004) suggest that failure to include governance variables in earlier studies when examining levels of voluntary disclosure could have contributed to mixed findings. Some of the research conducted by scholars is described below:

A single country study was carried out by Oylere et al. (2003), who investigated the use of IFR by identifying company characteristics that influenced IFR by 229 companies listed on the New Zealand Stock Exchange (NZX). The results indicate that some determinants of traditional financial reporting; i.e. firm size, liquidity, industrial sector and spread of shareholding, are determinants of voluntary adoption of IFR. However, other firm characteristics, such as leverage, profitability and internationalisation do not appear to influence the decision to use the Internet as a medium for corporate financial reporting.

Table 3.2 Prior explanatory research

Author(s)	Date of Data Collection	Sample	Number of Checklist Items	Dependent Variables	Significant Independent Variables
Marston and Leow (1998)	November 1996	U.K. FTSE-100	2	Presence of website Disclosure of any financial information on website	Size (+)
Ashbaugh et al. (1999)	November 1997 through January 1998	290 U.S. companies (criticized by AIMR)	3	Websites provide: Comprehensive set of financial statements (including foot notes and auditor report) Link to annual report elsewhere on the Internet Link to U.S. SEC's Electronic Data gathering, Analysis and Retrieval (EDGAR) system	Size (+) Profitability (+) AIMR highly ranked firm (+)
Craven and Marston (1999)	July 1998	206 largest U.K. companies	2	Presence of website Disclosure of any financial information on website	Size (+)
Pirchegge and Wagenhofer (1999)	December 1997 and December 1998	26/20 Austrian companies 1998/1997 German DAX-30 1998 only	38	7-Content 5-Timeliness 14-Technology 12-User support	Size (+) Free Float (--) (both for Austrian companies only)
Ettredge et al. (2001)	February through May 1998	402 U.S. companies(AIMR rated, Bio-technology, and Computer technology)	17	6- Accounting information items 11- other financial information items	Size (+) Industry (petroleum highest and homebuilding lowest)
Debreceny et al.(2002)	November 1998	660 large	2	1-Presentation (type of website)	Size (+)

(IASC sponsored)	through February 1999	companies in 22 countries (30 largest market cap companies listed in each country in Dow Jones Global Index)		1-Content (amount of disclosure)	U.S. Listing (+) Growth prospects (Market value to book value) (--) For presentation: Size (+) U.S. Listing (+) General cross listing (--) Level of technology (particularly being in pharmaceutical industry) (+) Disclosure environment
Ettredge et al. (2002)	Late 1997 through early 1998	193 U.S. companies (AIMR rated)	17	4-Financial information items required in SEC filings 12- items of voluntary disclosure	For both Size (+) Correlation annual earnings and returns (--) For voluntary disclosure only: Raising equity capital (if stock issued during 1996 or 1997) (+) Quality (AIMR measure) (+)
Oyelere et al. (2003)	Not specified	229 N.Z. companies (123 with websites; 90 included Internet financial reporting)	8	Financial and non-financial information provided on corporate website	Size (+) Liquidity (+) Ownership spread (higher proportion of shareholding by top 40 percent of shareholders, lower the probability of disclosure) Industry (primary industry group sector: oil and gas and forestry highest)

Marston (2003)	1998 plus follow up in May 2001	99 top Japanese companies	13	Whether company had a website Whether any English website on homepage Whether 11 items of financial information disclosed in Website	Size (+) Industry (+) (both related to existence of website but not extent of disclosure on web)
Allam and Lymer (2003)	End of 001 and early 2002	250 companies (50 largest in advanced capital markets; U.S., U.K., Canada, Australia and H.K.)	36	12- General attributes 24- Financial /Annual report attributes	Size (+) (only for Australia)
Abdelsalam et al. (2004)	July 2004	20 Indian companies on BSE Senex	114	64-Content 50- Usability	For overall and content disclosure: Big 4 auditor Free float (+) Gearing (--) PE (profitability) (--) U.S. listing /filing (+) Industry (manufacturing) (overall only) (--) None significant for usability
Marston and Polei(2004)	July 2000 and May/June	50 German companies (top quartile and bottom quartile of DAX 100)	53(2000) 71(2003)	Content (16- investor related , accounting and financial information, 5- Timeliness, 5- Contract details , 14 Corporate governance and 5-Social Responsibility)	For 2000: Size (+) Free Float (+) For 2003 Size (+) ROE (--) Foreign Listing (+) State Share Ownership (-)
Bollen et al. (2006)	December 2001 and October 2002	270 listed largest companies in six different	33	Content -16 Presentation-15	Size (+) Level of internationalization (+)

		countries (Australia, Belgium, France, Netherlands, South Africa and U.K.)			Industry (level of technology) (+) Growth rate (+) Performance (--) Growth rate(--)
Abdelsalam et al. (2007)	Mid-2005	110 London-listed companies	143	Content-74 items Usability-69 items	Size (+) Profitability (+) Industry (+) Growth rate (+) Analysis following (+) Director holding (+) Director independence (+) CEO duality (+)
Abdelsalam and Street(2007)	February 2006	115 UK companies listed on London Stock Exchange	11	11 Timeliness information	Cross directorship (+) More experience and length in director service (+) Bard Independence (--) Analyst following (+) Block ownership (--) CEO duality (---)
Abdelsalam and EI-Masry(2008)		44 listed companies on Ireland Stock Exchange	13	Timeliness information 13	Size (--) Auditor fee (--) Profitability (--) Managerial ownership (+) Blockholder ownership (--) Independent directors (+) CEO duality (--)
Álvarez, et al. (2008)	December 2005	117 largest companies listed on Madrid Stock Market	44	Content (11 financial information, 11corporate governance, 9 Corporate social responsibility, 5 Intangible, 8	Size (+) Industrial sector (energy sector) (+) Profitability (--)

				strategic information)	Leverage (--)
Barako and Tower (2008)	2006	343 Indonesia Listed companies on the Jakarta Stock Exchange	1	1Whether the companies have websites or not	Size (+) Leverage (--) Profitability (--) Company Age (+) Ownership Structure (--) Independent of directors (--) Independence of audit committee(--)
Ezat and El Masry(2008)	December 2006	50 listed companies on the Cairo and Alexandria Stock Exchange	11	Timeliness information-11	Size (+) Type of industry (+) Liquidity (+) ownership structure (+) board composition (+) board size (+) CEO duality (--)
Gandía (2008)	1st of June, 2003	92 Non financial companies listed on Spanish National Securities Market	32	32ARCGD (annual report corporate governance disclosure index) 32CNMV (information on the Web site of Spanish National Securities Market Commission) 32 ICGD (Internet based corporate governance disclosure index)	Size (+) Firm performance (+) Listing age (+) Board Size (--) CEO duality (--) Free float share (--) Media visibility (+) Analyst Following(+)

Kelton and Yang (2008)	2003	284 companies listed on NASDAQ national Market	46	Format -12 Content -36	Size (+) Growth (--) ROE (--) Equity (--) Correlations between earnings and returns (--) BIG 4(+) Shareholder rights Managerial ownership (+) Block ownership (--) Board composition (independent directors) (+) CEO duality (--) Audit committee Financial expertise (+) Audit committee meeting frequency (+)
Hegazy and Hegazy (2010)	2008	FTSE 100 UK listed companies	15	15	Size (+) Board Composition (+) Audit meeting (+)
Aly et al. (2010)	October 2005 to January 2006	Top 100 most active-traded companies listed in the Egyptian Stock Exchange	100	Content -59 Presentation-31	Profitability (+) Foreign listing (+) Industry type (communications and financial services) (+) Size (--) Leverage (--) Liquidity (--) Auditor type (--)

Crag and Gakhar(2010)	January, 2008	200 companies of BSE-index in India	119 items	Financial reporting index	Size (+) Profits (--) Age (--) Nature of industry (+) Liquidity (--) Ownership spread (--) Leverage (+)
García Sánchez et al.(2011)	December, 2005	117 companies liste d on the Madrid Stock Market	8 items	Strategic information index	Size (no affect) Industrial sector (+) Profitability (--) Leverage (+) Ownership diffusion CEO duality (+) Board activity (+) Board size (+) Independence of the Board of Directors (--) Blockholders (--)
Alali and Romero(2012)	Mid-March to mid June 2009	84 listed companies on Buenos Aires Stock Exchange in Argentina	53 items	Internet Disclosure Index(IDI)	Size (+) Leverage (+) ROA (--) Growth (--) Big 4(+) Merval25(+) Industry (--) (Mining) (+)
Bourbaker et al. (2012)	October and November, 2005	529 French – listed companies	101	Content –68 (8 General information 17 Investor related information	Size (+) Ownership structure Industry (+)

				28 Financial Information 10 Corporate Governance 6 Corporate Social Responsibility Presentation –26 Timeliness –7)	Equity (+)
Botti et al. (2013)	December 2007	32 companies of French CAC40 index	71 items	Content-48items Presentation-23 items	Board size (+) Board independence (+) Board Meetings (+) Board Diligence(+)
Manjinder (2013)	November, 2007	181 companies of BS-1000 database in India	56 items	General information- 9 items Financial statements and reports- 6 items Specific information-41 items	Size (+) Leverage (--) Profitability (--) Age (--) Ownership dispersion (+)

Note: Various measures of size have been used, including market capitalization, Sales/turnover, number of employees, total assets. Results generally support any measure of size as being appropriate, but market capitalization is the most commonly used (Modified table based on Abdelsalam et al., 2007).

Examining IFR across a three-year timeframe Marston and Polei (2004) investigated the use of the Internet for financial information disclosure by German companies in 2000 and 2003, and identified factors influencing IFR. The initial sample was the top 25 and the lowest 25 DAX 100 companies according to market capitalization. They found company size was the only variable explaining financial disclosure during the period investigated. Foreign listing was only associated with the level of disclosure in 2003 and free float appeared to be the only variable related to the level of disclosure in 2000. Systemic risk and profitability had no predictive value for the IFR in the case of the sample companies.

In 2002, Larrán and Giner studied Spanish companies' use of IFR, sampling 144 companies from those quoted on the Continuous Market of the Madrid Stock Exchange. Their results showed that size was the main factor, explaining not only the quantity but also the quality of the financial information. The leverage, return on equity, foreign listing, industry and book to market ratios were not significant variables for describing the disclosed financial information. Other scholars, for example, García et al. (2011), have carried out research in Spain. They investigated a sample of 117 companies listed on the Madrid Stock Exchange, and reported that size and industry concentration was associated with a high level of financial disclosure; whilst leverage and profitability had no significant effect.

Most studies focus on the biggest companies in a country. In one study, García et al. (2005) investigated 816 Small and Medium-sized Enterprises in Spain. They observed a clear relationship between possessing a website and the size of the sector. Manager's education and training, having previous contact with clients and/or suppliers via the Internet, and businesses' technological tradition and the importance given to the quality of products as well as the commercial distribution process were also contributory factors.

A few studies have attempted to expand their analysis to include specific industries among other potential determinants of Internet disclosure. For example, Gowthorpe and Amat (1999), Ettredge et al. (2001), Debreceny et al. (2002), Bonson and Escober (2006), Alvarez et al. (2008) and Boubaker et al. (2012) all explored the relationship between financial reporting through the Internet across various industries. Debreceny et al. (2002) found high tech companies tended to disclose more information on their

websites and that the banking and energy sectors have a positive attitude it IFR. Similarly, Oyelre et al. (2003) identified primary sector positively correlated to IFR, while Bonson and Escober (2006) reached the same conclusion for the financial sector. In addition, Boubaker et al. (2012) found IT industry firms use the web extensively to disclose information to shareholders.

Conducting research in less developed countries, Barako et al. (2008) analysed all the Indonesian companies on the Jakarta Stock Exchange in terms of their ability to communicate via the Internet. They reported statistical differences regarding the size and age of the firms. Larger and older firms were far more likely to have websites, and the findings from this study show that internet communication with external stakeholders regarding financial reporting data is still not at an optimal level, especially from the perspective of foreign investors who are more likely to rely on web technology.

In terms of corporate governance influence, Ajinkya et al. (2005, p371) suggested that "promoting stronger governance could promote transparent disclosure". Accordingly, some research has examined the association between governance and disclosure transparency in the IFR environment.

Abdelsalam and Street (2007) studied the timeliness of IFR in 115 UK companies. Multivariate analysis results provided evidence of a significant association between timely IFR and the corporate governance characteristics of board experience and board independence. Follow-up analysis provided additional evidence of a significant association between the timeliness of corporate Internet reporting and board experience. The evidence indicated that role duality and block ownership are associated with less timely IFR. In a similar vein, Abdelsalam and El-Masry (2008) investigated the timeliness of IFR by 44 Irish-listed companies. Multivariate analyses results offered evidence that the timeliness of IFR is positively associated with board of director's independence and chief executive officer (CEO) ownership. The findings suggest that board composition and ownership structure influence a firm's timeliness regarding IFR behaviour.

In the US, Kelton and Yang (2008) examined 284 companies listed on the NASDAQ National Market in 2003. Their results indicate that firms with weak shareholder rights,

a lower percentage of blockholder ownership, a higher percentage of independent directors, a more diligent audit committee, and a higher percentage of audit committee members considered financial experts are more likely engage in IFR. These results suggest that corporate governance mechanisms influence a firm's Internet disclosure and lead to improved disclosure transparency via IFR in the context of the US.

Boubaker et al. (2012) undertook a study analysing the determinants of web-based corporate reporting among 529 French-listed firms. The firms featuring a dispersed ownership structure, appear to use the web extensively to disclose information to their shareholders.

With regard to less developed countries, Ezat and EI –Masry (2008) examined the key corporate governance factors that affect the timeliness of IFR amongst Egyptian listed companies. Multiple-regression results identified a significant relationship between the timeliness of IFR and firm size, type of industry, liquidity, ownership structure, board composition and board size. These results also indicate that firms with a high proportion of independent directors, a large number of board directors and a high free float disclose information on their websites in a more timely manner.

3.3.2 International explanatory research

Unlike most of the explanatory studies mentioned above, which examine a single country, one of the studies covered five developed countries. Allam and Lymer (2003) reviewed the analysis across five developed countries, Australia, Canada, Hong Kong, the UK and the US. This study focused on the largest companies in the five countries and addressed the relationship between the size of the companies and their reporting practices. Another international study of IFR was conducted by Debreceny et al. (2002), who examined the presentation and content of IFR at 660 large companies in 22 countries, to identify the firm and environmental determinants of IFR. The study revealed that firm size, listing on US Stock Exchanges and technology were firm specific determinants of IFR. However, leverage and listing companies overseas on the securities markets were not significant. Similarly, Bollen et al. (2006) carried out a multinational empirical analysis, extending prior research on the use of IFR activities by investigating the quality determinants of IR websites in six countries (Australia, Belgium, France, the Netherlands, South Africa and the UK). Again, company size, level of internationalisation (foreign listing and foreign revenue), proportion of shares

available to individual investors and disclosure environment were all found to be significantly related to the extent of IR activities on the Internet.

In research in less developed counties, Pervan (2006) investigated IFR practices on stock-market listed Croatian and Slovenian companies. A subsequent regression analysis showed that majority foreign ownership had a positive effect on IFR scores. For the Slovene sample, comprising 30 firms, the size, profitability and number of stockholders were not significant variables. However, official listing, proportion of market capitalisation and ratio of market to book values of shares were statistically significantly, and positively correlated with the IFR score.

3.3.3 Other factors that determined the IFR

Many prior studies have determined what factors determine IFR practice by conducting content analysis. However, a limited number of studies describe the influence of other parties, such as the stakeholders or the management team. Some additional studies applied questionnaires or interviews to understand the factors that motivate companies to disclose IFR from a stakeholder's perspective, and these studies examined the reasons why affected companies' decide not to disclose financial information on their websites.

FASB (2000) offered a list of potential motives for companies to provide financial information on the Internet:

- Reducing the cost of and time to distribute information;
- Communicating with previously unidentified consumers of information;
- Supplementing traditional disclosure practices;
- Increasing the amount and type of data disclosed; and
- Improving access to potential investors for small companies.

Ettredge et al. (2001) also provided evidence based on the results of interviews with IR directors who see websites as a way of reducing administrative costs, and believe that online disclosure helps provide a common level of disclosure for all stakeholders.

Héroux (2006) examined how different stakeholders and contextual factors influence structures related to website content management. The results obtained suggested that stakeholder orientation, structures related to website management, the size of the

organisation, and business sector, influence web content. Top management support, the resources allocated to websites and the size of the organisation also determine to what extent such structures develop (Héroux, 2006).

Ali Khan and Ismail (2012b) used a survey questionnaire with four different use-groups: academics, students, managers, and Bank offices in Malaysia. The outcome of the analysis revealed that three factors that are perceived as important for determining whether firms are likely to engage in IFR: the desire to enhance corporate image, having a technology development, and having competitors in the industry. One researcher (Ali Khan and Ismail, 2012a) focused on Bank officer's views of IFR in Malaysia, they also collected data using a survey questionnaire of 110 bank officers. The results were similar to those of Ali Khan and Ismail (2012a, b). Additional research by Ali Khan and Omar (2013) examined 100 auditors' views on IFR using questionnaires. They found three factors influenced companies to engage in IFR: desire to enhance corporate image, perceived stability and improvement in share prices, and the actions of competitors in the industry.

Yap and Saleh (2011) interviewed ten senior managers in Malaysia using semi-structured and in-depth questionnaires to ascertain their views and opinions on IFR. They identified 7 principal motivations for companies' practice of IFR as follows: companies choosing to be more transparent about communicating company information, promoting products and services to create a good brand name in the industry, a strong belief in good corporate governance best practices, to compete for finance, to set a good example for other listed companies to follow, to project a good corporate image, and wanting to be known by all, and not just being an item on the Stock Exchange.

Abu Ghazaleh et al. (2012) conducted interviews to examine attitudes towards companies disclosing IFR, many factors influencing top management's decisions were highlighted. These factors included improving communication with stakeholders, improving companies' images and reputations, industry practice, level of competition in the market, overseas activities and affiliations, the role of top management and the work environment, and re-branding.

3.4 Economic consequences of IFR

The relationship between disclosure quality and cost of equity capital is an important topic in accounting theory and practice. Disclosure can refer either to mandatory or voluntary release of information about firms' financial positions and performance. The literature on corporate disclosures suggests that corporations disclose information to lower the cost of capital, to affect stock prices and/or to reduce information asymmetry (FASB, 2001). Cooper (2006) note that greater disclosure could increase value because it causes investors to increase their estimates of expected cash flows.

From a theoretical perspective, two distinct lines of research support the hypothesis that there is a negative connection between disclosure level and cost of equity capital: stock market liquidity and an estimation risk perspective (Hail, 2002). On the one hand, firms try to overcome the reluctance of potential investors to hold shares in illiquid markets by revealing private information and thereby reducing the cost of capital. On the other hand, firms provide better disclosure to reduce potential investors' risk estimation with regard to the parameters of a security's future return or payoff distribution (Hail, 2002). However, it is unclear to what extent accounting information or firm disclosures reduce non-diversifiable risks in economies with multiple securities (Lambert et al., 2007).

The literature characterises 'estimation risk' as an additional element of risk that arises when investors are uncertain about the parameters of a security's return or payoff distribution. First, estimation risk is non-diversifiable, such that the cost of equity capital is higher for low information (i.e. high estimation risk) securities. Second, traditional analysis of optimal portfolio choices and equilibrium pricing ignores estimation risk by treating the estimated parameters as if they are true (Botosan, 2006). As a result, estimation risk is not captured by market beta. Ultimately, this debate spurred Clarkson et al. (1996) to conclude that 'the extent of the impact of estimation risk remains, fundamentally, an empirical question' (p.79).

Empirical support for the suggested link between disclosure quality and equity financing costs arises from a growing body of recent studies. Voluntary disclosure literature studies firms' disclosure decisions and their effect on the type of information disclosed (Verrecchia, 1983; Dye, 1985). Studies argue that there are potentially three types of capital market effects for firms that make extensive voluntary disclosures: improved liquidity for their stock in the capital market, reduced cost of capital, and increased information intermediation (Diamond and Verrecchia, 1991; Healy et al.,

1999). An experimental study from Bloomfield and Wilks (2000), showed that in a laboratory financial market, improved disclosure quality leads investors to demand shares at higher prices, thereby implicitly lowering the cost of capital (Graham et al., 2005), and triggering increases following financial analysis (Healy and Palepu, 2000).

However, proprietary costs (Wagenhofer, 1990) states that companies limit voluntary disclosure of information to financial markets because of the existence of disclosure-related proprietary costs. These costs include not only the expense incurred when preparing and disseminating information but also the costs derived from disclosing information that could be used by competitors and other parties in a way that is harmful to the reporting company. Accordingly, managers favour non-disclosure of information that might affect the competitive position of their company in the market, even if this might increase the associated cost of capital (Campbell et al., 2001). The existence of proprietary costs introduces some noise into the equilibrium model. According to Verrecchia (1983), the higher the proprietary costs associated with disclosure, the less negatively investors react to the withholding of relevant information, thus the less likely companies are to voluntarily disclose information.

A number of quantitative studies have tested the relationship between level of disclosure and economic consequences, by examining data from several countries. Botosan and Plumlee (2002) concluded that type of disclosure influences cost of capital. They found positive, negative and insignificant associations between the cost of capital and various types of disclosure. Francis et al. (2008) found that firms with high earnings quality had more expansive voluntary disclosures than firms with poor earnings quality; and that there was no empirical link between the cost of capital and voluntary disclosure, when controlling for quality of earnings. Hassan et al. (2009) suggest that mandatory disclosure had a highly significant but negative relationship with firm value on the Egypt Stock Exchange (ESE), while voluntary disclosure had a positive but insignificant association with firm value. Both types of disclosure were considered together in the test, which resulted in a negative significant impact on firm value.

Wang et al. (2008) found no evidence that Chinese listed companies benefit from extensive voluntary disclosure from having a lower cost of debt capital. In the same vein, Lan et al. (2013) suggested no significant relationship between voluntary disclosure and the cost of equity in China. Similarly, Wang and Ali (2013) examined the relationship between voluntary disclosure and firm value, and concluded that during

the financial crisis, voluntary disclosure continued to increase, although firm value had decreased. Chen et al. (2014) also found a negative relationship between firm value and voluntary disclosure for firms that relied heavily on connections in their value creation. Hence, when summarising the evidence from the above studies, the effect of disclosure upon firm value and cost of capital was still an empirical issue.

Furthermore, several studies have investigated the economic consequences of IFR. In comparison with the paper-based disclosure, IFR has lower dissemination costs, improves the accessibility of information for all stakeholders, and increases the timeliness of public disclosures (Gerring et al., 2003). Despite these advantages, stock market failure to respond fully to the potential of IFR can be explained as evidence that the market believes traditional information sources already supply sufficient information to make investment decisions. Additionally, companies voluntarily disclose IFR to provide timely information to investors; thus, lack of timely information or a reputation for not providing precise and accurate information consistently, can lead to investors under-pricing a firm's stock (Graham et al., 2005).

This section will review studies that examine the impact of IFR on firm value, cost and capital and stock share prices. Silva and Alves (2004), Cormier et al. (2009a), Ezat (2010) and Garay et al. (2013) examined the relationship between level of IFR score and firm value (firm value measured by Tobin's Q). Froidevaux (2004), Cormier et al. (2009b), Orens et al. (2010) and Ojah and Mokoaleli-Mokoteli (2012) examined the relationship between the level of IFR score and cost of finance. Hunter and Smith (2009), Lai et al. (2010) and Rahman (2010) investigated how IFR impacts stock prices.

3.4.1 IFR and firm value

Several researchers have examined IFR and firm value, and the majority of those tested the relationship between the IFR index and firm value, as measured by Tobin's Q. Silva and Alves (2004) investigated the existence of an association between IFR by Latin American companies (Argentina, Brazil and Mexico) and Tobin's Q. Multivariate analysis has made apparent the existence of a significant association between the voluntary disclosure of financial information and a firm's value. Similarly, Garay et al. (2013) examined the relationship between an Internet-based corporate governance disclosure index in 2006, 2008 and 2010 and Tobin's Q and firm performance (ROA) in Argentina, Brazil-Bovespa and Novomercado-Chile, Colombia, Mexico and Peru. The

result of Random-Effects (RE) and Feasible Generalised Least Squares (FGLS) show a positive and strong relationship between the corporate governance index and Tobin's Q for firms in Latin American.

Similarly, Cormier et al. (2009a) provided evidence on the impact of web-based social and human capital disclosure on firm value in Canada, and the results of simultaneous equation modelling indicated quantitative disclosure increases Tobin's Q. Another study conducted by Ezat (2010) in Egypt examined the relationship between self-constructed Internet disclosure index and firm value. In this study, the Internet disclosure index contains content, timeliness disclosure, presentation and usability. Bivariate analysis and multivariate analysis also provides empirical evidence that corporate Internet reporting impacts positively on Tobin's Q and Market/book ratio.

3.4.2 IFR and cost of capital

Previous studies have examined the relationship between voluntary disclosures and cost of capital, and the majority of their evidence supports the idea that voluntary disclosure reduces the cost of capital, with a number of exceptions (Francis et al., 2008; Wang et al., 2008; Lan et al., 2013). This section discusses some of these studies, considering the link between IFR and cost of capital. Froidevaux (2004) examined the investor relation section on US companies' websites of to gain insight into the relation between the disclosure level of information and cost of equity capital. For 141 non-financial companies, Froidevaux (2004) found a negative and highly significant association between cost of equity capital and level of IFR.

Similarly, Orens et al. (2010) examined the association of Web-based non-financial disclosure and a firm's cost of finance in North American (Canada and the US) and Continental Europe (Belgium, France, Germany and the Netherlands). Bivariate analysis and multivariate analysis provided empirical evidence of a negative association between the level of Web-based non-financial disclosure and the implied cost of equity capital in North American and Continental Europe. However, Continental European firms with higher levels of Web-based non-financial disclosure also appear to benefit from a lower information asymmetry and lower cost of capital; whereas, North American does not accrue the same benefit (Orens et al., 2010). Ojah and Mokoaleli-Mokoteli (2012) investigated IFR and its economic impact in 44 developed and

developing countries, and found that increased IFR does enhance market efficiency, ultimately reducing the cost of capital.

3.4.3 IFR and Stock prices

Some studies have also investigated how IFR affects firm's stock prices. Most of these studies used event study methods. The earliest study was by Hunter and Smith (2009), who used the Efficient Market Hypothesis (EMH) to test the effects of two economic events on the market returns in firms that engage in IFR in emerging markets. They conducted a survey on Brazil, India, Indonesia, Russia and South Africa for different companies between 1991 and 1997. Using bivariate analysis, the findings reveal positive dispersions in market price and volume around the event dates. It can be concluded that the market performance of securities listed on emerging market Stock Exchanges improves as business reporting on the Internet becomes more popular.

Another study by Lai et al. (2010) also investigated whether IFR provides financial information that has a significant impact on stock prices in Taiwan, an event study was used in this research and multiple regressions were used to analyse the data. The results show that the lag lengths of the firms with IFR are significantly less than those without IFR. Additionally, the results from the event study methodology showed cumulative abnormal returns of firms with IFR are significantly higher than those of firms without IFR (Lai et al., 2010).

Similar results were also found by Rahman (2010), who examined the impact of IFR on stock prices at public companies incorporated on the Kompas 100 index on Indonesia's Stock Exchange. This study employed an event study and multiple regressions to analyse the data. The results showed the level of IFR has a significant positive impact on abnormal return. However, the hierarchical regression test suggests an insignificant relationship between corporate governance mechanisms on IFR companies' stock prices

3.5 Stakeholder's perceptions of IFR

3.5.1 Benefits of adopting IFR

The dissemination of financial information using the Internet is already common practice for an increasing number of listed firms worldwide (Lymer at al., 1999). There are numerous benefits to adopting IFR, such as the ability of the Internet to supply timely and more thorough information at relatively low cost. Xiao (2002) argues that

the Internet enables both standardisation and customisation. It is a global network that makes physical and national boundaries less meaningful and is, thus, a seamless information delivery channel; it supports powerful hypertext and hypermedia presentations (Xiao et al., 2005). In addition, the Internet has the ability to provide information interactively. According to Beattie and Pratt (2003, p3), "Sophisticated, user-friendly software agents provide the user with effective decision-support facilities. Information can be made available more quickly, potentially, on a real-time basis. Moreover, the use of the Internet means there is no longer any significant technological or cost constraint on the amounts of information that can be disseminated".

Ali khan and Omer (2013) suggested the three benefits to IFR are that it helps users in decision-making process, provides accessibility to users and increases timeliness and efficiency. According to Hodge et al. (2006), technologies that allow alternative presentation formats for financial information could facilitate investor information gathering, improve disclosure transparency, and influence the investor decision making process. The IFR process currently used by businesses worldwide is known as 'first level digital reporting' (ICAEW, 2004); however, the second generation digital reporting technology currently in development is XBRL, which is anticipated to be more able to deliver on its potential (Dunne et al., 2013).

3.5.2 Issues that arise when adopting IFR

The use of IFR raises a number of additional issues, which include the resources required to develop and maintain websites, and the fact that information on websites can be vast and disorganised, blurring the line between audited and unaudited information, equity and efficiency of access, introduction of errors, security and integrity of information, and additional professional concerns (Oyelere et al., 2003).

Ismail et al. (2007) identified potential problems associated with IFR. These problems can be particularly troublesome in cases where reporting objectives are poorly designed, where the data is improperly formatted, if the system is fraudulent, or if users are unable to utilise the data. Moreover, Lai et al. (2010) stated that there are no international accounting standards to regulate this kind of reporting; hence, the practice of financial reporting on the internet is based on common practices (Budisusetyo and Almilia, 2008). Yap and Saleh (2011) concluded that issues associated with IFR are: lack of regulation of reporting, website security and timeliness of reporting.

Although there has been an increase in both the number of companies and types of information provided on the Internet, the quality of IFR from the perspective of users has improved only a little; this problem has been compounded because auditors have minimal control over web content or the changes that can be made to audited information (Khadaroo, 2005). A common feature of corporate websites is that unaudited information is incorporated with audited information in such a way that it is difficult for users to discriminate between the two (Fisher et al., 2004). Hodge (2001) investigated links from audited and unaudited information and found that users frequently misclassified unaudited information as audited, when moving between audited and unaudited information using hypertext. Another issue was the omission of audit reports. Hussey et al. (1998) reveals 15 percent of 63 UK FTSE companies omitted audit reports, offering no indication of whether the information presented had been audited. Ettredge et al. (2000) found evidence in a US study of selective omission of information pertaining to audited financial statements.

Fisher et al. (2004) revealed that a numbers of factors specifically associated with IFR have significant implications for auditors, such as the appropriate responsibilities of auditors and the nature of audit reporting in this environment. There appears to be a strong argument for auditors to become responsible for checking that audited financial statements correspond with those published on corporate websites. Lymer and Debreceny (2003) found various audit standards bodies recognise the need for further guidance to auditors on the implications of IFR.

In respect of XBRL development: once XBRL technology is adopted by the majority of listed companies and required, investors are likely to demand assurances on the tagging process. Although there has been growing awareness surrounding assurance issues related to XBRL, current audit practices and standards do not provide the necessary guidance for the provision of assurance of XBRL related documents (Boritz and No, 2009).

3.5.3 Stakeholder's perceptions of IFR

More recently, a number of studies have focused on users' perspectives (Debreceny et al., 2001; Beattie & Pratt, 2003; Dull et al., 2003; Gowthorpe 2004; Hodge & Pronk, 2006; Hassink et al., 2005; Quagli et al., 2007; Ghani & Jusoff, 2009; Rowbottom &

Lymer 2009, 2010). These studies examine users' information needs, format reporting preferences and decision-making perspectives, as well as stakeholder's perceptions of IFR.

Debreceny et al. (2001) investigated what attributes the end-user of financial-reporting websites considers most important. In terms of content, respondents rated traditional content elements more highly than forward-looking information. Quagli et al. (2005) examined expert's behaviour when visiting websites to acquire financial information about listed companies, and found that financial news websites play an important role in expert user's behaviour. Rowbottom and Lymer (2009) suggest professional users characterised by professional investors, creditors, accounting firms and lawyers make greater use of Annual reports, but less use of sustainability reporting information and other online disclosures. In another study carried out by Rowbottom and Lymer (2010), they found key financial statements, notes, and segmental analysis generate the most information requests and narrative reporting information tends to be more popular among online users than management commentaries or more detailed narratives.

Bell and Tang (1999) conducted a study to discover the views of users regarding companies' websites. In general, the survey found that those websites that rated highly (above average) were characterised by ease of access, content and structure. Debreceny et al. (2001) propose that financial reporting websites should present information primarily in text and graphical format. Uses of multimedia, such as audio and video clips, are of secondary importance. Users might also like a table of contents to navigate within the website. Furthermore, a hypertext system of information, such as electronic financial statements, provides users with the ability to aggregate disaggregated data.

Beattie and Pratt (2003) reported the findings of a UK study into the views of various user groups, preparers and auditors regarding specific proposals for change and newly emerging practices. All groups found navigational aids, search aids and file formats at least partially useful; especially global navigation aids. Preferences for certain file formats varied across the groups. Hodge and Pronk (2006) found professional investors prefer to view PDF-formatted quarterly reports and tend to rely directly on financial statements, compared with nonprofessional investors who prefer to view HTML-formatted reports and have a tendency to rely more on management's discussion of quarterly results.

Ghani and Jusoff (2009) examined another aspect of IFR; that was, whether public accounting practitioners' work experience and familiarity with presentation formats influences their preferred presentation format. Their results demonstrated that familiarity with the two presentation formats, Portable Document Format (PDF) and Extensible Business Reporting Language (XBRL), does not influence users' preferences; however, familiarity with Hypertext Mark-up Language (HTML) was an important determinant of preference for HTML.

To discover how the presentation format of information affects user's decisions, Dull et al. (2003) examined the effect of different presentation formats on users' judgements by studying the effect of hypertext links on their decisions and predictions. They reported no differences when using financial statements prepared with or without hypertext links; however, for small companies, significant differences were found in terms of predictions, the amount of information accessed, and the time taken to make decisions. These findings imply that under some circumstances, the use of hypertext links in financial statements can affect users' judgement processes (Dull et al., 2003).

With regard to the effectiveness of IFR, Gowthorpe (2004) studied the usefulness of the Internet for communicating corporate financial information to stakeholders. Assessment of stakeholder requirements produced random results, but was informed in many cases by an intention to correct long-standing inequities in the provision of corporate data. Since the assessment of needs is largely intuitive, it is difficult to judge the effectiveness of the Internet as a mechanism for communicating financial information.

Another study by Hassink et al. (2007) explored the capacity of the Internet to act as a mechanism to enhance communications between companies and investors. Their results suggested that even the largest companies in the six countries they reviewed encounter serious difficulties when adopting email as a mechanism for symmetrical communication with individual investors. The results of this study showed that the company did not fully benefit from the Internet as a mechanism for restructuring communications with investors.

Adams and Frost (2006) examined the use of the web as a means of stakeholder engagement, and as part of a strategy for communicating to stakeholders. They observed

only limited understanding of the advantages offered when using the web as a communication strategy to cover all aspects of corporate performance. The study also found that the lack of resources made available for web-based communication limited its potential. AbuGhazaleh et al. (2012) investigated stakeholder's perceptions of IFR practice in Jordan by interviewing 12 heads of different departments listed on the Amman Stock Exchange. The interviewees pointed out the importance of having a website as a tool for building relationships with stakeholders, suggesting this is generally perceived as a way to strengthen relationships that already exist.

A few of the researchers explained why some companies are yet to adopt IFR, despite its relative acceptance. Moradi et al. (2011) suggest financial managers are unwilling to guarantee the availability of timely financial information, and that this is one of the reasons behind the failure to set up IFR. Additional explanatory factors raised include the lack of a legal obligation to release information on Stock Exchange based companies' websites, the lack of a standard for IFR, some managers' unfamiliarity with the advantages of IFR, and problems related to tendering internet services such as low internet speed, internet disconnections, etc.

Ali Khan and Ismail (2012a) examined the lack of IFR practices in survey questionnaires sent to scholars in Malaysian, they concluded that three factors inhibit firms from engaging in IFR; the need to keep information updated to be of use, the absence of legal requirement, and an unwillingness to be transparent. Ali Khan and Ismail (2012b) also investigated the four users' group using questionnaires and found required expertise from the company, the need for updated information to be of use, and concern over the security of information are the top three factors inhibiting firms from engaging in IFR. Ali Khan and Omer (2013) examined auditor's views with regard to IFR, and concluded that the top three factors discouraging companies that do not engage in IFR are: it requires expertise, concerns over disclosure of propriety information, and concerns over security of information. AbuGhazaleh et al. (2012) identified further reasons why companies do not disclose IFR using semi-structured interviews. These suggest the absence of legal requirements, and the fact that top management are not convinced that the Jordanian community is ready to depend on the Internet for the acquisition of information.

3.6 Research of IFR in China

There are several studies regarding voluntary disclosure in China, and these will be evaluated in this section. Ferguson et al. (2002) examined the impact of international capital market pressure on voluntary disclosure in the annual reports of formerly wholly state-owned enterprises (SOEs), listed on the Hong Kong Stock Exchange (HKSE). They found that SOEs disclosed significantly more strategic and more financial information than other HKSE firms. Wang et al. (2008) also investigated the determinants and consequences of voluntary disclosure in China; finding that the level of voluntary disclosure relates positively to the proportion of state ownership, foreign ownership, firm performance measured by return on equity, and the reputation of the engaged auditor. However, these studies were not concerned with voluntary reporting on the Internet.

With regard to voluntary disclosure on the Internet, the number of studies in China is limited. There is one descriptive study, which focused on China listed companies and was carried out by Feng and Xu (2008), and two international comparison studies by Shukla and Gekara (2010) and Feng and Wan (2013). A further three explanatory studies were carried out by Xiao et al. (2004), He and Zhang (2007), and Chou (2008).

Feng and Xu (2008) investigated items of relevance to Investor Relations on the websites of companies listed on the Shanghai Stock Exchange, Shenzhen Stock Exchange and Hong Kong Stock Exchange. A website-based investor relations index, WEIBX, was constructed to compare IR efforts between companies in all three markets. WEIBX considered both IR-related format and content item numbers, with different weights assigned to each items. Data were collected from 50 Companies listed on the SHSE, 50 Companies on the SZSE, and 50 companies on the HKSE (all blue chip companies) between December 2007 and February 2008. The results showed that, despite some rapid progress, both in formats and content, sample companies from the Shanghai and Shenzhen Stock Exchanges are generally underdeveloped compared to those from Hang Seng companies.

Table 3.3 Prior IFR research in China

Author(s)	Date of Data Collection	Sample	Number of Checklist Items	Dependent Variables	Significant Independent Variables
Xiao et al. (2004)	August 2002	300 largest Chinese list companies	82	39 CRSC-required items 17 voluntary items 24 Presentation	For the 203 companies with the website Size (+) Leverage (+) IT Industry (+) Legal person Ownership (+) Auditor type (+) Independent directors (+) Government agency's share ownership (--) State share ownership (--) ROA (--) FSHARE (--)
He and Zhang (2007)	August and November, 2004	774 A-share companies list in CSSE	18	8 CRSC-Required 6 Voluntary 4 Format	For 596 companies with website Size (+) Management share (+) IT Industry (+) Auditing type (+) Auditing opinion (+) Biggest shareholder (--) Circulating shareholder (--) Independent director (-) ROA/ROE(--)
Feng and Xu (2008)	December 2007 to February 2008	50 Companies list in SHSE, 50 Companies in SZSE, and 50 Companies in HKSE	32	10 stage 1, web presence 14 stage 2, investor interested ones 9 stage 3, internet featured and	no

		(All blue chip companies).		interactive ones	
Chou (2008)	October 2006 to February 2007	1057 companies list in SHSE and SZSE (816 companies with website)	34	10 CSRC-required 22 Voluntary 2 Web management	For 816 companies with website Size (+) Companies growth Tobin Q (+) Performance (+) Leverage (--) Stock return (--) State- share ownership (--) Private block shareholders (+) for low privatization companies but not for highly privatized companies (--) Independent director (--)

(Note: The above table was created by the author)

In addition, Shukla and Gekara (2010) carried out an international comparative study to investigate the utilisation of web-based facilities by companies in India and China for communicating information. They surveyed Fortune 500 companies listed on the Bombay Stock Exchange (BSE), the National Stock Exchange (NSE) in India and the Hong Kong Stock Exchange in China, from 1st September 2008 to 5th November, 2008. A scoring scheme, including 20 attributes, was developed to measure the level of IFR and check the degree of IFR across the various sectors. Of the 500 sample companies, 416 (83.20%) Indian companies had active websites and of those 409 (93.31%) disclosed their current year's annual report on their websites. Furthermore, 125 (30.05%) also included auditors' reports from the previous year. In the other case, 402 (80.40%) of the Fortune 500 companies in China had active websites, 400 (99%) disclosed their current year's annual reports on their websites and 23 (5.72%) also included auditors' reports from the previous year. The study shows web based corporate reporting is relatively high in Asia's two emerging economies.

Another comparative study was carried out by Feng and Wan (2013), who examined the largest 30 company websites listed in the US (Dow Jones Industry), UK (FTSE100), 48 listed companies in Hong Kong (Han Seng) and 40 listed companies in Mainland China (SSE/SZSE). A WIR level evaluation index comprising 82 items was constructed. Website data was collected from January to July 2012. The results indicated listed companies' WIR levels were very similar between Hong Kong and mainland China, as well as between the US and UK; meanwhile, companies listed in the US and UK have much higher levels of WIR.

With regard to explanatory studies, Xiao et al. (2004) surveyed IFR use for the dissemination of financial information by the 300 largest Chinese listed companies. Seven hypotheses were generated based on agency theory, signalling theory, institutional theories, and innovation diffusion theory. The authors developed a disclosure index of 82 items, including 58 items of disclosure content and 24 items regarding presentation format. Content items included disclosure of information required by the CSRC and non-CSRC required items. Presentation format items concern how the information is presented and its convenience (Xiao et al., 2004). Xiao et al. (2004) analysed the factors behind Chinese listed companies' voluntary adoption of Internet-based financial reporting, and the extent of their disclosure. The influence of share ownership, independent directors, auditor type, foreign listings, industry and the

influence of CSRC was assessed. Univariate and multivariate analysis demonstrated positive effects for foreign listing, the auditor and industry, the proportion of independent directors, and legal person share ownership. However, no link was found between the state owned share and voluntary disclosure on the Internet, and the results were not in line with Ferguson et al. (2002) or Wang et al. (2008).

Another explanatory study was carried out by He and Zhang (2007), to examine IFR among Chinese listed companies. An IFR disclosure index, encompassing 14 items of disclosure content and four items of format was created. The sample consisted of 774-A-Share companies listed on the SHSE during August and November 2004. In total, 596 firms were found to have websites on which financial information is disclosed. Firm size, auditing type, industry type (IT industry), and corporate governance, including independent directors and managerial ownership, were also significantly related to IFR. Profitability and stock structure were not found to be indicators of IFR.

The final explanatory study presented was carried out by Chou (2008), to examine the association between ownership structure and IFR disclosure by 1,056 listed companies at different stages of privatisation in China. Data available on the Internet, and related to 1,056 companies listed on the Shanghai Exchange and Shenzhen Exchange of 2006 was collected. A total of 22 disclosure items, including four categories, were obtained for content analysis. The results show that state ownership will curtail the extent of Web disclosure in the post-privatisation stage, and that private block shareholding is positively correlated with Web disclosure for low-privatisation firms, but not for highly private companies. The findings indicate that state and private block holders have diverse Web reporting policies during ownership evolution, and that information asymmetry may exist in the post-privatisation stage.

This research showed IFR is increasing rapidly, although usage varies between countries. Feng and Xu (2008) concluded that despite some rapid progress, both in format and content, SSE 50 index companies and Shenzhen components index companies are generally underdeveloped relative to Hang Seng companies. A comparative study conducted by Shukla and Gekara (2010) offered an international comparison of IFR in China and India, and the US, UK, Hong Kong and China. Shukla and Gekara (2010) suggested Indian companies and Fortune 500 companies in China are at similar stage, with regard to IFR on their websites. Conversely, Feng and Wan

(2013) concluded that US and UK listed companies have much higher levels of IFR than mainland China and Hong Kong listed companies.

With regard to explanatory studies, the size of a firm is a consistent factor relating to IFR in all three studies. Xiao et al. (2004) and He and Zhang (2007) both concluded that industry type, auditor type, and the proportion of independent directors are significantly related to IFR, but not the performance of the companies. Xiao et al. (2004) and Chou (2008) both suggested leverage is significant when related to IFR in China. Firms' performance was not found to be significant by Xiao et al. (2004) or Chou (2008). The determinants of IFR overlap those found to influence IFR practices of the companies in the previous studies (firm size, industry type, auditor type), and additional factors offer no support as determinants of IFR (firm performance). With respect to the unique institutional factors that affect IFR in China, Xiao et al. (2004) and Chou (2008) investigated how ownership structure determines IFR on the Shanghai Stock Exchange. Xiao et al. (2004) reported negative efforts due to state ownership, but there are positive impacts on IFR from legal person ownership and foreign share ownership. Similarly, Chou (2008) concluded that state ownership will reduce the extent of IFR at the post-privatisation stage and private block shareholding is positive relative to IFR for low privatisation firms, but not for highly privatised companies.

3.7 Research gaps from prior studies

Gaps in previous studies can be categorised according to three main areas. Firstly, a large number of descriptive and explanatory studies have dealt with IFR in developed countries. However, little research has examined IFR in China (Xiao et al., 2004; He and Zhang, 2007). Xiao et al. (2004) surveyed IFR use for the dissemination of financial information by the 300 largest Chinese listed companies in 2001, but ignored smaller and medium sized Chinese listed companies. He and Zhang (2007) examined the IFR by 774 Chinese listed companies in 2004; however, He and Zhang (2007) created an IFR disclosure index which encompassing 14 items of disclosure content and four items of format. There is a dearth of studies covering more comprehensive samples and a new approach is used to assess the level of IFR on their websites. Empirical studies confirm the role of corporate governance in determining corporate transparency (Beasley, 1996; Gul et al., 2010). To entirely reform the capital market, the Chinese government has had to implement procedures to convert state-owned shares to tradable shares (CSRC, 2005). Thus, this unique setting in China provides an excellent perspective from which

to examine the relationship between corporate governance and IFR empirically in a market dominated by state owned enterprises. There are also limited recent empirical studies in the Chinese context. Findings from this study could therefore contribute to the development of corporate transparency.

Secondly, prior research suggests the return required by investors on their investments reduces correspondingly with improvements in the voluntary disclosure of valuable information by the firms in question (Diamond and Verrecchia, 1991). Silva and Alves (2004) and Garay et al. (2013) reported on the existence of a significant association between IFR and firm value in Latin America. Conversely, some recent studies have indicated that voluntary disclosure lowers the cost of capital and increases firm value, and that this may not apply to all stock markets. Lai et al. (2010) examined the economic consequences of IFR in Taiwan, and found that the stock prices of IFR firms change more quickly than those of non-IFR firms. There is a lack of studies concerning the economic consequences of IFR in the context of main land China.

Finally, the literature review of prior literature reveals the majority of studies have applied quantitative techniques to identify the factors influencing IFR. Only recently, few researchers have applied qualitative techniques to IFR studies. AbuGhazaleh et al. (2012) investigated stakeholder's perceptions of IFR practice in Jordan by interviewing 12 heads of different departments listed on the Amman Stock Exchange. That left scope for research on IFR to include qualitative analysis to investigate the perception of persons positioned to influence IFR in the context of China. Personal interviews with market participants have identified the factors influencing IFR. This results in factors being not so easily captured from quantitative analysis. Information obtained in interviews could provide further insight into those factors influencing IFR practice.

3.8 Summary

This chapter reviewed previous studies of companies' IFR. It identified four types of IFR research: IFR descriptive studies, IFR explanatory studies, the economic consequences of IFR disclosure, and stakeholder perceptions of IFR. IFR studies in China were also reviewed and the gap in previous studies in this area was identified. As the majority of studies have focused on the largest companies on the Stock Exchanges, this current study aims to address these by examining the use of the Internet for

disseminating financial information amongst the 150 biggest and smallest companies listed on the Chinese Stock Exchange. It will investigate a more comprehensive range of variables in association with IFR in China; especially corporate governance factors. A disclosure index will be created to measure IFR practices, which include total, content, presentation, timeliness, and usability. The review of prior literature reveals the majority of IFR studies have applied quantitative techniques to identify those factors that determine IFR, and leave room for the current study to extend this by examining additional management factors determining IFR disclosure qualitatively. The literature review suggests a lack of studies in regard to the economic consequences of IFR, especially on Chinese Stock Exchanges; thus, the economic consequences of IFR disclosure will be examined in this study. Furthermore, the current study will investigate participants' perceptions of IFR, which will contribute to a better understanding of IFR behaviour.

Chapter 4 Theories and Hypotheses

4.1 Introduction

This chapter reviews and explains relevant theoretical frameworks regarding IFR research. Watts and Zimmerman (1990, p. 150) state that:

> The study of accounting is a social science. An accounting theory that seeks to explain and predict accounting cannot divorce accounting research from the study of people. The contracting approach to studying accounting requires researchers to understand the incentives of contracting parties.

Accounting theories aim to provide a coherent and systematic framework for investigating, understanding and/or developing various accounting practices (Deegan and Unerman, 2011). This study uses agency theory, signalling theory, a cost and benefit approach, and institutional theory, to explain and predict IFR. Based on those theories, the researcher developed 11 hypotheses to examine the factors informing IFR in relation to Chinese listed companies. After which 1 hypothesis, covering the economic consequences of IFR and its effect on Chinese listed companies, were generated. Finally, a summary will be presented.

4.2 Theories

4.2.1 Agency theory

Agency theory has been widely used by scholars in the fields of accounting, economics, finance, marketing, political science, organisational behaviour and sociology. The origins of agency theory date to the 1960s and early 1970s, when economists explored risk sharing problems, noting that they arise when cooperating parties have different attitudes toward risk (Arrow, 1971). Agency theory broadened risk-sharing literature to include the agency problems that occur when cooperating parties pursue different goals and divisions of labour (Jensen and Meckling, 1976). Agency theory is most concerned with resolving two problems that can occur in agency relationships. The first agency problem arises when (a) the desires or goals of the principal and agent conflict, and (b) when it is difficult or expensive for the principal to verify what the agent is actually doing (Eisenhardt, 1989). Table 4.1 provides an overview of agency theory:

Table 4.1 Agency Theory Overview

Key idea	Principal-agent relationships should reflect efficient organisation of information and risk-bearing costs
Unit of analysis	Contract between principal and agent
Human assumptions	Self-interest assumptions, Bounded rationality, Risk aversion
Organisational assumptions	Partial goal conflict among participants Efficiency as the effectiveness criterion Information asymmetry between principal and agent
Information assumption	Information as a purchasable commodity
Contracting problem	Agency (moral hazard and adverse problems selection), Risk sharing
Problem domain	Relationships in which the principal and domain agent have somewhat differing goals and risk preferences (e.g. compensation, regulation, leadership, impression management, whistle-blowing, vertical integration, transfer pricing)

Source: (Eisenhardt, 1989)

In the context of accounting, agency theory is a key theory applied to help explain and predict manager's selection of particular accounting methods, such as voluntary disclosure, voluntary appointment of auditors, and corporate lobbying about proposed accounting standards (Kelly, 1983). According to Lambert (2001), agency theory has been attractive to accounting researchers, as it makes it possible to incorporate conflicts of interest, incentive problems, and mechanisms for controlling incentive problems explicitly.

Agency theory is concerned with the principal agent problem, as associated with the separation of ownership and control of a firm, and includes an explanation for how equity ownership by managers aligns managers' interests with those of owners (Jensen and Meckling, 1976). Jensen and Meckling defined the agency relationship (1976, p.308) thus: "A contract under which one or more (principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent". Within agency theory, it is assumed that individuals always act with self-interest; thus, precipitators of conflicts incur agency costs, which they then have an incentive to reduce (Morris, 1987). Jensen and Meckling (1976) discussed three types of agency costs: (1) the bonding expenditures of the agent; (2) the monitoring expenditures of the principals; and (3) the residual loss, which

represent the differences in wealth between the agent and principals. Morris (1987) observed two sets of agency costs: the first is the decline in a firm's value when shareholders perceive that managers are not pursuing their interests, especially in situations where managers are acting inefficiently or choosing insufficiently profitable projects, and secondly, the costs of monitoring managers and insuring they pursue shareholders' interest. It is apparent that the agency costs of debt are borne by equity holders, and that these include problems of excess dividend payments, the issue of senior ranking debt, asset substitution, and underinvestment (Smith and Warner, 1979), together with bankruptcy and reorganisation costs.

When applying agency theory, a well-functioning firm is one that monitors and minimises its agency costs. Devices for monitoring and bonding managers include the production of accounting reports, writing of restrictive covenants in debt contracts, and management bonus plans geared to reported profits (Morris, 1987). Fama (1980) discussed the role of efficient capital and labour markets as information mechanisms used to control the self-serving behaviour of top executives. Belkaoui and Karpik (1989) suggest that agents have an incentive to disclose more information in order to reduce interference from principals. In addition, when agents perform well, they may also use disclosure as a way to improve their status. Increased shareholder monitoring or controlling of shareholder activities could reduce agency problems. As a result, managers are expected to disclose more information so that the agency costs involved in monitoring activities can be reduced (Schipper, 1981). In addition, voluntary disclosure can also mitigate the agency problem, as managers can then disclose more voluntary information, thereby reducing agency costs (Barako et al., 2006) and also convincing external users that managers are acting in an optimal way (Watson et al., 2002). IFR includes voluntary forms of disclosure, which help reduce agency costs by disseminating timely information, and using different presentation types as readily accessible tools.

Even though agency theory addressed an issue which has been central to the organisation since the late 19th century, it has received a number of criticisms, especially regarding its primary assumptions, and ontological and epistemological issues (Armstrong, 1991). Tinker et al. (1982) have commented that agency theory does not take into account the institutional background. Ogden (1993) also adds that agency theory seems to oversimplify complex business relationships. Agency models derive

from normative implications and are not bias-free, especially in terms of the bias associated with researcher's opinions (Whittington, 1987).

4.2.2 Signalling theory

Signalling theory originated as an explanation for how decision-makers interpret and respond in settings where information is incomplete and asymmetrically distributed between the parties to a transaction (Spence, 1973, 1974). Spence (1976) explains information asymmetry as having two aspects. The first aspect concerns difficulty differentiating high quality products from other products. This may result in the withdrawal of products from the market by sellers of high quality items. The second aspect is a signalling process, which represents the efforts of sellers when conveying information to buyers about the superiority of their products. This theory relies on the premise that one firm, such as a seller, has a comprehensive body of information, while external parties, such as buyers, rely on what the seller is willing to share (Nelson, 1970). According to Morris (1987), signalling theory addresses problems of information asymmetry in the markets, and uses information signalling to demonstrate how this asymmetry can be reduced.

Signalling theory is similar to agency theory in that it recognises the separation of ownership and control in modern corporations and that market pressures on management will motivate management to disclose information material to investors (Ross, 1979). However, one of the assumptions of this theory, which makes it slightly different from agency theory, is that there are signalling costs that are inversely related to the quality of information (Morris, 1987). In the financial market, some players have access to better quality information than others. Consequently, the best informed players are in a superior position from which to make economic decisions, as they have the necessary information to obtain greater benefits than other players from contractual relationships (Grossman and Stiglitz, 1980). Verrecchia (1983) suggested that companies signal certain information to investors to show their superiority in the market, to attract further investments and enhance a favourable reputation. Trueman (1986) argues that this incentivises talented mangers to make voluntary earnings forecasts.

Voluntary disclosure is one means of signalling, and can be a way to measure a company's quality and performance. Frequently, companies disclose more information than is mandatory by law to signal that they are better (Campbell et al., 2001).

Similarly, Xiao et al. (2004) conclude that signalling theory suggests voluntary disclosures are one means by which companies or managers can distinguish themselves from others in regard to such dimensions as quality and performance. Corporation information can be used as a mechanism (signal) to provide markets with additional information about the economic reality of a company, so that investors' expectations can be consequently changed. Voluntary disclosure is one possible way of achieving this distinction (Kelly, 1994). When a company believe its shares are mispriced, it may rely on signalling incentives, and disclose information that is more detailed, to adjust the share price to its 'true' value; thereby avoiding undervaluation by the market (Healy and Palepu, 1993). Companies may suffer from a devaluing of their reputation if they fail to disclose bad news in a timely manner (Skinner, 1994).

In respect of IFR, companies can disclose more information on their websites to distinguish themselves from their competitors. The Internet, in particular, provides companies with a platform to disclose information in a timely manner to meet investor's needs. In addition, Craven and Marston (1999, p. 323) state that: "The very use of the Internet might itself be a signal of high quality". Growing belief that online disclosure is a sign of high quality and good performance may encourage additional firms to use the same procedures and disclose information to their stakeholders (Ezat, 2010).

Morris (1987) concluded that a considerable amount of overlap exists between agency theory and signalling theory; for example, rational behaviour is common to both. Information asymmetry in signalling theory is implied by positive monitoring costs in agency theory. Quality can be defined in terms of agency theory variables, and signalling costs are implicit in some bonding devices associated with agency. However, information asymmetry is a necessary condition of signalling theory, although it is not a necessary condition of agency theory. Furthermore, signalling theory differs from agency theory, in that there are signalling costs, which are inversely related to the quality of the information provided (Morris, 1987). Signalling theory suggests that managers tend to present quality information to minimise signalling costs.

Disclosures can have public relations benefits. Investors and creditors gain an impression of a firm's openness and forthrightness (Elliott and Jacobson, 1994). Companies may improve their image and reputation by disclosing more voluntary information.

4.2.3 Cost and benefit approach

Boardman et al. (2005, p18) described the Cost and Benefit Analysis approach as: Providing a framework for measuring efficiency, it can be thought of as a situation in which resources, such as land, labour, and capital, are developed in their highest valued uses in terms of the goods and services they create. In situations in which analysts care only about efficiency, the Cost and Benefit Analysis approach provides a method for making direct comparisons among alternative policies.

Additionally, Gray and Roberts (1989) noted that disclosure choices are usually determined by managerial assessments of the costs and benefits of proposed alternative disclosures, therefore, managers' decisions to voluntary disclose supplementary information depends on balancing the incentives (benefits) and the constraints (costs) of increasing information disclosure. The major costs and benefits derived from information disclosure can be summarised as follows:

1) Cost of capital: Firms benefit when disclosure reduces their capital costs. Disclosure accomplishes this by enabling investors and creditors to understand the economic risk of investment (Elliott and Jacobson, 1994). Sweeney (1994, p286) argued that many companies "realise that institutional investors prefer to put money into companies that provide lots of information and that good investor relations can help their stock prices." Bushman and Smith (2001) suggested financial accounting information also enhances financial performance. Financial information assists investors and managers in recognising and realising investment opportunities, leading to value creation with less error, thereby reducing estimation risks and the cost of capital. Companies might also increase voluntary disclosure to raise capital more cheaply from the markets (Marston, 1999). This is because voluntary disclosure helps mitigate information asymmetries among informed and uniformed investors.

2) Cost of developing and presenting disclosure: Firms pay for the costs of disclosure, including the costs of gathering, processing, auditing and disseminating information. Since costs affect cash flow, firms have an interest in minimising the

costs of disclosure, especially for voluntary disclosure such as IFR. On the other hand, one of the main benefits of IFR is the savings made in the costs of production and distribution as associated with print-based annual reports (Oyelere et al., 2003).

3) Political costs: The political cost theory suggests that managers are concerned with political considerations, including preventing explicit or implicit taxes, or other regulatory actions (Watts and Zimmermann 1978). According to Watts and Zimmerman (1978), political costs depend on a firm's size. Larger companies with high profits are more likely to increase their level of voluntary information disclosure to enhance their corporate reputation and public image, as they are more publicly visible.

4) Litigation costs: Litigation can arise from allegations of insufficient information disclosure, or from allegations of misleading disclosure (Elliott and Jacobson, 1994). The threat of shareholder litigation can have two effects on managers' disclosure decisions: First, legal actions taken against managers for inadequate or untimely disclosures can encourage firms to increase their voluntary disclosure. Second, litigation can potentially reduce managers' incentive to provide disclosure, particularly in terms of forward-looking information (Healy and Palepu, 2001). Wagenhofer (2007) stated that additional disclosure on the Internet can result in legal concerns.

5) Proprietary costs: Some researchers have suggested that firms' decisions to disclose information to investors are influenced by the concern that disclosures can damage their competitive position in the market (Verrecchia, 1983; Wagenhofer, 1990; Gigler, 1994). Such information can include details about technological and managerial innovation, strategies, plans and tactics, and information about operations, etc. Verrecchia (2001) and Dye (2001) stated that the proprietary costs hypothesis assumes no conflicts between managers and shareholders; thus, predicting voluntary disclosure is always credible. Verrecchia (1983) shows that proprietary costs increase the range of possible interpretations drawn by investors from a manager's decision not to disclose information. Similarly, Hayes and Lundholm (1996) predict that managers also mitigate the potential cost of proprietary information through non-disclosure. Linsley and Shrives (2000) assume non-disclosure can be explained by proprietary cost theory, recognising that

companies will not disclose information if they judge it useful to their competitors. Armitage and Marston (2008), in their study of general corporate disclosure practices, also found that companies prefer not to disclose information that could be useful to their competitors.

Table 4.2 Cost and benefit framework

Theories	Cost	Benefit
Cost of capital		Lower cost of capital
Cost of developing and presenting disclosure	Financial cost	
Political costs	Political costs	
Litigation costs	Litigation costs	
Proprietary costs	Proprietary costs	

According to the cost and benefit approach, the decisions made by companies to disclose IFR are based on multiple factors. As IFR is one type of voluntary disclosure, a companies' decision to disclose IFR, is generally taken according to the benefits and costs anticipated. Gray and Roberts (1989) mentioned that companies might make a voluntary disclosure if the weighted benefits exceed the weighted costs. This was confirmed by Bhushan and Lessard (1992, p152), who stated, "It is now generally recognised that a cost-benefit analysis is required, weighting the benefits of additional disclosure to investors against the costs, both direct and indirect, to issuers". Similarly, Cooke (1992) assumes that when companies make a voluntary disclosure this means that the benefits of disclosure exceed anticipated costs. Healy and Palepu (1993) acknowledge this trade off, stating that managers must decide about how much information comprises sufficient disclosure. Companies must balance their provision of IFR, as there is a potential benefit to reducing the cost of capital, while ensuring that they do not divulge too much information about political costs, litigation costs and costs that damage their competitive position.

4.2.4 Institutional theory

Institutional theory seeks to investigate how norms, routines, rules, attitudes, and structures become engrained within an organisation. Scott (2008, p 460) states: Institutional theory attends to the deeper and more resilient aspects of social structure. It considers the processes by which structures, including schemas, rules, norms, and routines, become established as authoritative guidelines for social behaviour.

It is understood that institutional theory has a long history in areas such as economics, sociology, and political science (Scott, 2008). Old institutionalism emphasises the political aspects, which result in organisations being impacted more by the vested interests of parties than a sense of legitimacy (Powell and DiMaggio, 1991). Conversely, new institutionalism examines legitimacy as a key factor of interest to organisations, finding a need to develop practices to address this concern (Selznick, 1996). New institutionalism is a development in organisational theory, with great relevance for accounting research (Carruthers, 1995). New institutionalists view accounting practices as one aspect among a larger set of features that can legitimise organisations through the construction of an appearance of rationality and efficiency. New institutional theory (Meyer and Rowan, 1977; DiMaggio and Powell, 1983) is based on the premise that organisations respond to pressures from their institutional environments and adopt structures and/or procedures, which are socially accepted as appropriate organisational choices.

Institutional theory ((Meyer and Rowan (1977); DiMaggio and Powell (1983); Zucher (1977, 1987)) has been adopted by some accounting researchers, and provides a complementary perspective to researchers who investigate voluntary corporate reporting practices, in understanding how organisations understand and respond to social change and institutional pressures and expectations, it explains that managers will be subject to pressure to change, or adopt, certain voluntary corporate reporting practices. (Deegan and Unerman, 2011, p. 296). Institutionalisation of management practices may also be viewed as "a process entailing the creation of reality" (Scott, 1995, p 505). In their study of organisations and institutional theory, DiMaggio and Powell discussed the fact that adoption of new technologies is intended to improve performance; although, others adopt a similar plan to gain legitimacy (DiMaggio and Powell, 1983).

Institutional isomorphism is concerned with the fact that all organisations are aware of what other organisations are doing (DiMaggio and Powell, 1983). Indeed, "Organisations compete not just for resources and customers, but for political power and institutional legitimacy; for social as well as economic fitness" (DiMaggio and Powell, 1983, p150). Dillard et al. (2004, p.59) explain, "Isomorphism refers to the adoption of an institutional practices by an organisation". DiMiggio and Powell (1983) identified three different isomorphic processes (i.e. processes whereby institutional

practices such as voluntary corporate reporting adapt and change): coercive isomorphism, mimetic isomorphism and normative isomorphism.

Coercive isomorphism concerns the way in which organisations are subjected to external pressures from organisations upon which they are dependent, or from general cultural expectations (Carruthers, 1995). According to Tuttle and Dillard (2007), coercive isomorphism occurs when external powers, such as customers, stakeholders and governments impose conformance demands. Coercive isomorphism examines the way in which regulatory and other external forces cause organisations to conform and resemble one another. Organisations will only change their institutional practices in response to pressure from stakeholders, upon whom the organisation is dependent. According to this explanation, a company is coerced into adopting voluntary corporate reporting practices, to bring it into line with the expectations and demands of powerful stakeholders. With regard to IFR practice, companies may act to disclose IFR on their websites to meet their stakeholders' expectations and demands.

Mimetic isomorphism involves organisations frequently considering a reference group; looking to kindred organisations, and seeking to emulate or improve upon the institutional practices of other organisations (Carruthers, 1995). DiMiggio and Powell (1983, p152) observe,

> *Organisations tend to model themselves after similar organisations in their field that they perceive to be more legitimate or successful, the ubiquity of certain kinds of structural arrangement can more likely to be credited to the universality of mimetic processes than to any concrete evidence that the adopted models enhance efficiency.*

Mimetic isomorphism concerns how organisations conform through the adoption of similar approaches. Unerman and Bennett (2004) explain this in the context of a study investigating stakeholder dialogue in corporate social reporting. They conclude that organisations operating within a similar sector adopt similar policies and procedures to those adopted by leading organisations in their sector. This is also true in respect of IFR, as companies make decisions based on what other companies are doing.

Professionals play a major role in normative isomorphism (Carruthers, 1995). DiMiggio and Powell (1983) specified that normative isomorphism proceeds from group norms, which impose a pressure to adopt particular institutional practices. Normative isomorphism can be linked to the professions and how they create

organisations that resemble one another as members of professions with similar training. In terms of voluntary reporting practices, normative isomorphic pressures could arise from less formal group influences, and from the range of both formal and informal groups, to which managers belong, such as related to the culture and working practices developed within the work place. This could then produce collective managerial opinions in favour of, or contrary to certain types of reporting practices; e.g. financial reporting on the Internet.

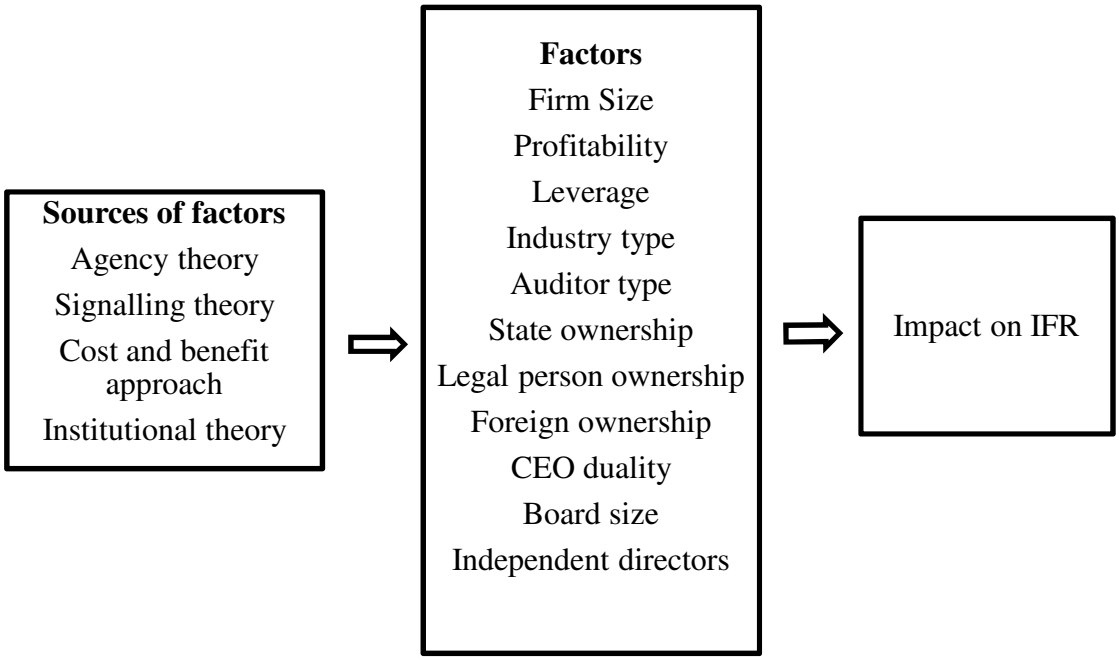
Another dimension of institutional theory is decoupling. Decoupling implies that, while managers might perceive a need for their organisation to be seen to be adopting certain institutional practices, and might even institute formal processes aimed at implementing these practices, actual organisational practices differ from formally sanctioned and publicly pronounced processes and practices (Deegan and Unerman, 2011). In terms of voluntary corporate reporting practices, decoupling can be linked to insights proceeding from legitimacy theory.

Carpenter and Feroz (2001) argue that institutional theory is complementary to economic theory. Based on the above explanations, institutional theory can further understanding of why companies post IFR on their websites, and of what motivations and routines may have been institutionalised within the company's management department. Institutional theory can also be used to assist in understanding internal practices, such as why organisations create, maintain and alter their websites, and the external forces placing pressure on them. It explains that managers will be likely to be subject to change, or to adopt, certain voluntary disclosure practices, for instance IFR.

In addition to agency theory, signalling theory, cost and benefit approach and institutional theory, stewardship theory can also be used to explain IFR practice. Stewardship Theory has been framed as the organizational behaviour counterweight to rational action theories of management (Donaldson and Davis, 1991). This theory arises as an important counterweight to agency theory, the essential assumption underlying the prescriptions of stewardship theory is that the behaviours of the manager are aligned with the interests of the principals. Davis et al. (1997) suggested that: a steward protects and maximizes shareholders wealth through firm performance, because by doing so, the steward's utility functions are maximized. Stewardship theory places greater value on goal convergence among the parties involved in corporate governance than on the

agent's self-interest (Van Slyke, 2007). In case of IFR, stewardship theory predicts that managers act in the best interests of the company and shareholders, and as such, they would influence IFR practice to achieve transparency.

Table 4.3 Theoretical framework of this study



4.3 Hypotheses regarding the factors that determine IFR

The theoretical literature provides complementary explanations for factors that explain why companies disclose IFR on their websites. Based on agency theory, signalling theory, cost benefit approach, institutional theory and innovation diffusion theory, 11 hypotheses have been developed to examine the factors determining Chinese listed companies' adoption of IFR and its components.

4.3.1 Company specific factors

Firm size

Firm size functions as a proxy for a number of corporate characteristics. Agency theory suggests that large firms exhibit higher agency costs, due to information asymmetry between the market participants (Jensen and Meckling, 1976). To reduce agency costs, large firms disclose corporate information. Hossain et al. (1995) attributes the positive association between size and disclosure to the increasing potential benefits of disclosure for mitigating agency costs. In reference to signalling theory (Kelly, 1994), larger firms

may be found to have a greater incentive to signal quality by means of improved disclosure.

Singhvi and Desai (1971) and Buzby (1975) describe three reasons for the association between disclosure and size. Firstly, disclosure costs may be generally lower in larger firms. Secondly, larger firms make more extensive use of the capital markets; thus, they can obtain capital more easily and more cheaply by offering disclosure that is more extensive. Lastly, larger firms believe full disclosure of information does not endanger their competitive position, as compared to smaller firms.

Several studies confirm a link between firm size and IFR (Marston and Leow, 1998; Ashbaugh et al., 1999; Craven and Marston, 1999; Pirchegger and Wagenhofer, 1999; Ettredge et al., 2002; Debrecency et al., 2002; Oyelere et al., 2003; Marston and Polei, 2004; Bollen et al., 2006; Abdelsalam et al., 2007; Barako and Tower, 2008; Kelton and Yang, 2008; Aly et al., 2010; Alali and Romero, 2012; Manjinder, 2013). Studies in China, including those by Xiao et al. (2004), He and Zhang (2007) and Chou (2008) also show similar results.

In the case of China, larger firms might tend to disclose more IFR for several reasons. For example, revealing more information may reduce agency costs, and that as larger firms are more in public spotlight more than smaller firms, they have a greater incentive to signal quality by improving disclosure. In addition, larger firms have more financial resources than smaller companies to prepare, collect, analyse and present information on their websites. Thus:

H1: Firm size
There is a positive relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's size.

Profitability

Verrecchia (1983) and Dye (1985) state that managers prefer to release only information that increases their current firm value:

From the perspective of the agency theory, it could be assumed that managers of highly profitable companies will be more prone to provide more detailed information, therefore the quantity of the information disclosed may be linked

to profitability of the company, this can be seen as a mechanism to improve the image of the company, reinforce the director's own job security and contribute to increase their remuneration. (Inchausti, 1997).
Signalling theory suggests profitable firms have an incentive to distinguish themselves from less successful firms, and to raise capital at the lowest possible price (Grossman & Hart, 1980). Voluntary disclosures on the web are one way to achieve this.

However, Wagenhofer (1990) and Prencipe (2004) analysed a likely negative relationship associated with proprietary costs theory. Higher profitability may spur rival companies to enter a company's market place. It is therefore essential to consider the influence of competitive costs, which could increase as profitability increases.

Several IFR studies have tested this hypothesis and obtained various results. Pirchegger and Wagenhofer (1999) and Aly et al. (2010) found an association between profitability and IFR; however, this was not in line with other research (e.g. Ashbaugh et al., (1999); Ettredge et al., (2002); Oylere et al., (2002); Marston and Polei (2004); Abdelsalam et al., (2004); Alali and Romero (2012)). Xiao et al. (2004) found no association between profitability and IFR in China. Because of this conflict, it is relevant to test the above hypothesis in a different context. Thus:

H2: Profitability
There is a positive relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's profitability.

Leverage
Agency theory (Jensen and Meckling 1976) suggests, "Agents will increase disclosure to their principal to reduce information asymmetry, thus, agency costs. Companies with higher leverage can be expected to disclose more information to reduce agency costs by reassuring debt holders that their interests are protected". Schipper (1981) asserts that, "Explicit restrictive covenants could mitigate the potential conflicts between bondholders and shareholders. Management could voluntarily disclose for monitoring purposes and help reassure debt holders about the ability of the company to pay its obligations". Companies may use IFR to allow shareholders and bondholders to monitor the affairs of the company continuously and in great detail (Debreceny et al. 2002).

IFR studies by Brennan and Hourigan (2000), Debreceny et al. (2002), Oyelere et al. (2003), Alali and Romero (2012), Manjinder (2013) tested this hypothesis and found no association. However, other study (García Sánchez et al, 2011) revealed a positive relationship between voluntary disclosure and leverage in the capital structure of a company. Meanwhile, based on research conducted in China, Xiao et al. (2004), Chou (2008) found no association between leverage and IFR. Thus:

H3: Leverage
There is a positive relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's leverage ratio.

Industry type

Wallace et al. (1994) suggest industry effects might explain the different levels of disclosure between firms. Jensen and Meckling (1995) found a positive relationship between the amount of specific knowledge in an industry and the agency cost to that industry. Signalling theory argues, "If a company fails to adopt the same disclosure strategy as other corporations in the same industry, the market could interpret this as bad news" (Watts and Zimmerman, 1978). Political cost theory suggests industry membership may affect the political vulnerability of firms (Inchausti, 1997; Craven and Marston, 1999). Firms in industries that are more politically vulnerable may use voluntary disclosure to minimise political costs, such as regulations or the break-up of the industry.

According to the OECD (1999) framework, low-technology firms arise in industries that employ less sophisticated technologies and are less vulnerable to change; medium-technology firms are found in industries where there are more sophisticated technologies, and are generally stable; and high-technology firms are those in industries with higher technological sophistication but greater vulnerability to changes in technology. These include companies in the computer, electronics, pharmaceutical and telecommunications industries.

Some IFR studies have found an association between industry type and voluntary disclosure (Ettredge et al., 2001; Oylere et al., 2003; Bollen et al., 2006; Aly et al., 2010; Crag and Gakhar, 2012; Alali and Romero, 2012), whilst others have not reported a statistically significant relationship (Craven and Marston, 1999; Marston, 2003;

Abdelsalam et al., 2004). Xiao et al. (2004) and He and Zhang (2007) identified a relationship between the IT industry and IFR by Chinese listed companies. Thus:

H4: Technology

There is a positive relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's being in a high technology industry.

Auditor type

Agency theory maintains that auditing helps alleviate conflicts of interest between managers and shareholders. Jensen and Meckling (1976) argued that larger audit firms were less likely to be associated with clients disclosing lower levels of information in their annual reports, because they had more to lose from any damage to their reputations. The signalling literature suggested larger auditing firms are more likely to be hired by companies with greater potential gains from external monitoring, because such companies are aware of the larger audit firm's need to demand higher quality disclosure; moreover, the choice of such auditing firms signals their acceptance of demands (Craswell and Taylor, 1992). Verrecchia (2001) suggested that the credibility of a firm's financial statements is enhanced when the firm hires a brand name auditor, or applies high quality accounting standards.

IFR studies by Abdelsalam et al. (2004), Al-Shammari et al. (2007) Bonsón and Escobar (2006) found that the amount and presentation of information for investors disclosed on a company's website positively related to the company's use of a Big-4 auditor. Xiao et al. (2004) and He and Zhang (2007) found an association between use of a big-4 auditor and IFR in China.

In the case of China, firms hire a big-4 as auditor to gains from external monitoring, this can reduce their agency cost and less information asymmetry, thus to improve their credibility and reputation. It is expected that IFR positively related to the company's use of a Big-4 auditor in the context of China. Thus:

H5: Auditor

There is a positive relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and the company's use of a Big-4 auditor.

Share ownership

There are three main types of share ownership in Chinese PLCs: state ownership, legal person ownership, individual private ownership, and individual foreign ownership. A salient institutional feature is that state ownership dominates the types of listed companies in China (Sun & Tong, 2003). Ferguson et al. (2002) argue that State Owned Enterprises (SOEs) are likely to present significantly greater adverse selection and moral hazards. SOEs receive significantly greater incentives when voluntarily disclosing additional information, as they can ease investor concerns regarding management quality and the role of the government as a major shareholder. Yang et al. (2011) state that the main agency problem that arises under a diffused ownership structure is the conflict between management and shareholders, whereas the central agency problem under a concentrated ownership structure is exploitation by controlling shareholders. Given that state ownership leads to the problem of "one dominant shareholder" and "insider control" in China, companies with higher state ownership are expected to lack the motivation to practice IFR for the following reasons. First is suggested that state shareholders can obtain information using internal resources (Xiao et al., 2004), and second, disclosure of financial information on the stock market will enable public investors to monitor management's related party transactions more closely (Qu et al., 2013). Research by Xiao et al. (2004) suggests companies with higher state ownership are inclined toward lower disclosure on their websites. Thus:

H6: State ownership

There is a negative relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's proportion of State Owned Corporation (SOC) ownership.

Compared to state shareholders, legal person shareholders are more economically orientated and geared towards profit maximisation (Tang and Wang, 2004). Legal person shareholders are focused on profit-making, rather than on fulfilling political and social goals (Xiao et al. 2004); thus, shareholders have more resources and expertise to monitor listed firms. In respect of the corporate governance of listed companies, legal person shareholders can monitor management more effectively than domestic public investors can, through their participation on boards of directors and through the selection of corporate officers (Xu and Wang, 1999). Thus, it is expected that legal person ownership will play a significant role in demanding transparent information for

the purpose of managing shareholders' equity stakes (Qu et al., 2013). Xiao et al. (2004) found a positive relationship between disclosure and legal personal ownership. Thus:

H7: Legal person ownership
There is a negative relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's proportion of legal person ownership.

Debreceny et al. (2001) suggested IFR will be particularly effective in circumstances where information can be efficiently disseminated to a large and widely dispersed audience. In China, the development and opening up of the Chinese stock market has led to a significant increase in individual investor shares, including domestic and foreign shares. Foreign investors in the Chinese stock market are international financial institutions, and as equity stakeholders of listed companies, these foreign investors behave as effective external agents (Qu et al., 2013). Foreign shareholders are more likely to face a higher level of information asymmetry, given the language barrier and their lack of access to corporate information. This, therefore, implies that Chinese companies must offer transparent disclosures that are suited to foreign investors, in order to raise and retain foreign funds (Wang et al., 2008). As the ownership of a company is dispersed between an increasing numbers of investors, the Internet is now an increasingly effective and efficient way to communicate with those shareholders. Thus, it is anticipated that foreign ownership would have a positive impact on IFR.

Pervan (2006) identified a positive relationship between IFR and companies with major foreign ownership, when researching Croatia and Slovenia. Xiao et al. (2004) found a positive relationship between IFR and foreign shares ownership in China. Thus:

H8: Foreign ownership
There is a positive relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's proportion of foreign shares ownership.

4.3.2 Corporate governance factors

Corporate governance aims to resolve conflicts of interest between managers and shareholders, and between large shareholders and minority shareholders; thereby

mitigating agency costs (Tang & Wang, 2012). Corporate governance mechanisms are useful for monitoring and determining a firm's overall information disclosure policy (Kelton & Yang, 2008). Financial transparency, operational transparency, and information disclosure are crucial elements of corporate governance. Companies that adopt good corporate governance practices typically apply a high level of financial and operational transparency, and disclose high quality information. Ajinkya et al. (2005) and Cheung et al. (2006) also state that promoting stronger governance can ensure transparent disclosure. Companies might improve their disclosure transparency by voluntary disclosing IFR on their websites. Therefore good corporate governance leads to better IFR practices. In this section, corporate governance factors, including CEO role duality, board size and board independence are discussed, to assess the effect of corporate governance mechanisms on IFR practice.

CEO role duality refers to a situation in which the CEO is also the Chairman of the Board. According to agency theory, CEO duality creates a strong individual power base, which can impair board independence and erode a board's ability to execute its oversight and governance roles (Fama and Jensen, 1983). Agency theory supports the separation of these two roles, to provide checks and balances for management performance (Haniffa and Cooke, 2002). Ever since the Cadbury Committee Report (1992), codes have been introduced recommending avoidance of CEO duality. However, stewardship theory supports the view that managers act in the best interest of the company and shareholders, therefore, role duality may enhance boards' effectiveness (Donaldson and Davis, 1991), consequently resulting in improved reporting quality (Haniffa & Cooke, 2002). IFR studies have found a negative relationship between IFR and CEO duality (Abdelsalam et al., 2007; Abdelsalam & Street, 2007; Abdelsalam & EI-Masry, 2008; Ezat & El-Masry 2008; Gandía, 2008; Kelton & Yang, 2008). However, no previous study has yet examined the relationship between CEO duality and IFR in China.

In China, traditional SOEs do not have boards of directors, and the government directly appoints and supervises CEOs. New joint-stock companies are required to have boards, thereby creating the problem of who chairs the board. The *Code of Corporate Governance for Listed Companies in China* (CSRC, 2002), which legally mandates the necessity to appoint outside directors, is conspicuously silent concerning whether the CEO should (or should not) be appointed as board chair. CEO duality result in the threat

of lack of independence and alertness among the board. Therefore, the board cannot monitor its top management team effectively or protect shareholders' interest, leading to agency problems or agency loss. Thus, agency theory would suggest a combination of CEO and chairman positions would weaken board control, and negatively affect IFR practice. Thus:

H9: CEO Duality

There is a negative relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's CEO duality.

The majority of good governance codes suggest a board must be formed by "a reasonable" number of members. This supposed optimal number would then inform efficiency in the fulfilment of the board's supervisory functions (Gandía, 2008). Chiang (2005) considered the size of the board as a factor that positively affects the disclosure of information, since increased disclosure provides a more positive impression of a company, as it represents the decisions of the members of the board. Ezat and El-Masry (2008), and García et al. (2011) found a positive relationship between IFR and board size in Egypt; however, Gandía (2008) found no relationship between IFR and board size in Spain. No previous study has examined the relationship between board size and IFR in China.

Bigger boards may be constructive for companies, as they provide diversity that would otherwise help companies to secure critical resources and reduce environmental uncertainties (Goodstein et al., 1994). Peng and Luo (2000) argue that Chinese firms with large boards are likely to benefit from a wider range of views and external connections. In China, company law (2006) specifically requires that the board of directors be composed of not fewer than 5, but no more than 19, members. It is anticipated that bigger boards could results in greater transparency of information, by disclosing IFR on their websites. Thus:

H10: Board Size

There is a positive relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's board size.

Fama and Jensen (1983) proposed that in the presence of independent directors, more effective monitoring of boards of directors can be carried out; thereby limiting managerial opportunism, and resulting in increased disclosure. Beasley (1996) argues, and provides evidence, that the proportion of independent directors positively relates to a board's ability to influence disclosure decisions. A high percentage of independent directors on the board would therefore enhance the monitoring of managerial opportunism, thereby reducing management's opportunity to withhold information (Kelton and Yang, 2008). However, empirical results are mixed. Some studies report a positive association between corporate disclosure and board independence (Chen & Jaggi, 2000; Xiao et al., 2004). Meanwhile, other IFR studies have found an association between board independence and voluntary IFR disclosure (Abdelsalam et al., 2007; Kelton & Yang, 2008; Abdelsalam & EI-Masry, 2008; Ezat & El-Masry, 2008), whilst others have found a negative relationship (Abdelsalam & Street, 2007). Xiao et al. (2004) identified a positive relationship between board independence and IFR in China.

In the case of China, the CRSC has issued "Guidelines on establishment of Independent directors systems in listed companies" (CRSC, 2003). According to these guidelines, by the end of June, 2003, at least 1/3 of board members were required to be independent directors. Although independent directors do not normally have an equity stake in listed companies, nor relationships with the management and employees, they do provide companies with tangible and intangible resources, monitor senior management and should be responsive to shareholders (Hong & Wang, 2001). Fan et al. (2007) found that independent directors have a positive effect on CEO monitoring in China. Therefore, it is predicted that a high percentage of independent directors on the board would enhance the monitoring of managerial opportunism and reduce management's opportunity to withhold information; such a requirement would then improve IFR practice in China. Thus:

H11: Proportion of independent directors

There is a positive relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and a company's proportion of independent directors to total directors.

4.4 Hypotheses relating to the economic consequences of IFR

The literature on corporate disclosures suggests corporations disclose information to lower the cost of capital, to influence stock prices and/or to reduce information asymmetry (FASB, 2001). Corporate finance theory implies shareholders endogenously optimise disclosure policy, management incentives, and corporate governance to maximise firm value (Core, 2001). Balsam et al. (2003) find the nature of the disclosure, whether mandated or voluntary, influences how firms measure stock-based compensation expenses, an item that then significantly affects earnings and, ultimately, firm value (Aboody et al., 2004). Hassan et al. (2009) suggests disclosure of more information may increase the value of the disclosed companies, either by decreasing the cost of capital, or increasing the cash flow accrued for shareholders or both.

According to agency theory, firms tend to make voluntary disclosures to reduce information asymmetry and to reduce the cost of external financing by means of limiting information risk. Voluntarily disclosing additional information, on the Internet, delivers greater information transparency, thereby reducing information asymmetry between the principal and the agent, which can in turn affect the costs of capital (Botoson, 1997), firm value (Frankel et al. 1999) and market liquidity (Welker, 1995). Disclosing more information via the Internet can reduce the uncertainty surrounding a firm's future performance and its value (Hunter and Smith, 2009). Signalling theory explains that the use of the Internet to disclose information about a company signifies a good quality company (Rahman, 2010). According to the cost and benefit framework, the decision to use corporate websites to disclose available information may depend on the manner in which the companies expect to benefit from complete and timely business reporting; indeed, companies may disclose more information on their websites to improve public relations, lower capital costs and increase firm value.

Conversely, some recent studies have indicated that the belief that voluntary disclosure has the benefit of lowering the cost of capital and increasing firm value may not hold true for all stock markets. In Canada, Richardson and Welker (2001) found the cost of equity was significant and positively related to social disclosures. Orens et al. (2010) examined the association of Web-based non-financial disclosure and a firm's cost of finance in the international context, they suggested firms in North America show no significant negative association with Web-based non-financial disclosure and cost of capital. Using a dataset comprising 110 Chinese listed companies, Wang et al. (2008)

investigated the effects of voluntary disclosure, and reported no evidence that companies benefitted from extensive voluntary disclosure through lower cost of capital. Lan et al. (2013) examined 1066 Chinese listed companies and also provided no evidence that extensive voluntary disclosure benefits listed companies in China in the form of lower capital costs. The above evidence highlights the impact of international institutional differences on the economic relevance of IFR.

Some IFR studies report an association between IFR and firm value. Silva and Alves (2004) reported the existence of a significant association between IFR and firm value in Argentina, Brazil and Mexico, according to Tobin's Q. Ezat (2010) found a positive relationship between the IFR index and Tobin's Q, and the market and book ratio in Egypt. Garay et al. (2013) found that an increase of 1% in the IFR index causes a 0.1592% difference in the Tobin's Q and increase of 0.0119% in firms ROA in seven stock markets in Latin America. Based on the above argument, it is interesting to explore whether there is any impact from IFR and its components on the Chinese listed firm value. Thus:

H12: Firm valuation
There is a significant relationship between the level of IFR and its components (total score, content, presentation, timeliness and usability) and firm valuation in China.

4.5 Summary

This chapter first reviewed agency theory, signalling theory, cost and benefit approach, and institutional theory, table 4.4 presents the expected direction and related theory of each hypothesis. Agency theory suggests that agents will increase IFR to their principal to reduce information asymmetry. Signalling theory suggests IFR is one means by which to measure a company's quality and performance. The cost and benefit approach provides a framework to assess the motivations of a manager when determining level of online IFR disclosure. Further, institutional theory provides a complementary perspective, from which to investigate IFR practices; it can help us better understand why companies post IFR on their websites, and what motivations and routines are at work.

Table 4.4 The expected direction and related theory of each hypothesis

Hypothesis	Independent Variables	Predicated sign	Related Theory
H1	Size	+	Agency theory Signalling theory Cost and benefit approach
H2	Profitability (ROA)	+	Agency theory Signalling theory
H3	Leverage	+	Agency theory
H4	Industry type	+	Signalling theory
H5	Auditor type (Big 4)	+	Signalling theory Institutional theory
H6	State ownership	_	Agency theory Institutional theory
H7	Legal person ownership	_	Agency theory Institutional theory
H8	Foreign share ownership	+	Agency theory Institutional theory
H9	CEO Duality	_	Agency theory
H10	Board size	+	Agency theory
H11	Independent directors	+	Agency theory

After the theoretical review, 11 hypotheses were developed to examine the factors that might determine IFR and its components among Chinese listed companies. Factors identified for testing are firm size, profitability, leverage, industry type, auditor type, state ownership, legal person ownership, foreign ownership, CEO duality, board size, independent directors and firm valuation. In respect of the relationship between IFR and firm value, additional 1 hypotheses concerning the economic consequences of IFR and its components on Chinese listed companies is provide in this Chapter. The next chapter introduces and discusses the research methodology and methods that will be applied in this study.

Chapter 5 Research methodology and method

5.1 Introduction

The aim of this chapter is to provide an overview of the research methodologies applied in this research project. It is useful to consider the full spectrum, from the theoretical determinants of the research through to its practical conclusions, as perceived in the relationship between 'epistemology', theoretical perspectives, methodology and research methods (Crotty, 1998). Therefore, in this chapter, section 5.2 presents epistemological considerations; section 5.3 covers ontological considerations; section 5.4 discusses inductive and deductive methodology; sections 5.5 and 5.6 examine research type and research strategy respectively; section 5.7 examines the practical application of the research strategy and the approach adopted in order to achieve the set objectives. Subsequently, details of the sample selection and data collection, as applied for both the quantitative and qualitative research are presented in sections 5.8 and 5.9 respectively. Finally, section 5.10 provides a summary of this chapter.

5.2 Epistemological considerations

Research methodology is distinguishable from research methods, the practical means of undertaking research, and concerns the actual approach taken as influenced by the philosophical and theoretical perspectives adopted by the researcher (Gray, 2009). Delanty and Strydom (2003) define epistemology as the investigation of the possibility, limits, origin, structure, methods and truthfulness of knowledge and of how knowledge can be acquired, validated and applied. Indeed, Maynard (1994) specified that: "Epistemology is concerned with providing a philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate" (p.10).

Researchers can select from a number of research philosophies to shape their methodology, including positivism and interpretivism. "Positivism is an epistemological position that advocated the application of the methods of the natural sciences to the study of social reality and beyond" (Bryman, 2004, p.28). However, the term positivism extends beyond this principle, although the constituent elements vary between authors. Realism shares two features with positivism: a belief that natural sciences and the social sciences can, and should, apply the same methods to the collection of data and its

analysis; including a commitment to belief in an external reality that scientists can uncover (Bryman, 2004). Meanwhile, interpretivism provides a contrasting epistemology to positivism:

> "Interpretivism is a term that usually denotes an alternative to the positivist orthodoxy that has held sway for decades. It is predicated upon the view that a strategy is required that respects the difference between people and the objectives of the natural sciences and therefore requires social scientist to grasp the subjective meaning of social action."(Bryman, 2004, p.24)

In addition to its influence on the methodology applied to the research process, epistemology can also have a major impact on data collection choices (Hitchcock & Hughes, 1995). For the purpose of this thesis, both positivism and interpretivism were applied.

5.3 Ontological considerations

As a philosophy, ontology is concerned with assumptions about a variety of real world phenomena. Ontology refers to the 'nature of reality' (Hudson & Ozanne, 1998). There are two positions within ontology, which are frequently referred to respectively as objectivism and constructionism:

> "Objectivism is an ontological position that asserts that social phenomena and their meanings have an existence that is independent of social actors. It implies that social phenomena and categories that we use in everyday disclosure have an existence or separate from actors" (Bryman, 2004, p.32).

Whereas, constructionism is an alternative ontological position; it asserts that social actors are continually accomplishing social phenomena and effecting their meanings. This implies that social phenomena and categories are not only a consequence of social interaction, but are also in a constant state of revision (Bryman, 2004, p.33). Furthermore, constructions exist in the mind of individuals and the role of the inquirer is to understand, reconstruct, analyse and critique participants' viewpoints, in a way that

leads to the construction of meaningful findings/outcomes (Guba & Lincoln, 1989). For the purposes of this thesis, both objectivism and constructionism were applied.

5.4 Induction and Deduction

According to Saunders et al. (2007), induction is a scientific research method that results in the formulation of a theory; it achieves an understanding of the meaning humans attach to events. In contrast, deduction is a scientific research method that involves the development of theory by collecting data and subjecting it to rigorous testing. The principal characteristics of deduction include the generation of research to explain the causal relationship between variables; the independence of the researcher from what is being observed; and the possibility of generalisation (Saunder et al., 2007). Marshall (1997) illustrated the theoretical use of both terms (inductive and deductive) as follows:

> When researchers first begin to open up any new line of enquiry there will be no useful theories available from which to deduce propositions for testing. Knowledge has to begin with collecting facts and then trying to find some order in them. This is known as induction. Deduction is the technique by which knowledge develops in more mature fields of enquiry. It involves a sort of logical leap. Going a stage further than the theory, data is then collected to test it. (p.17)

The research methods employed in this thesis combine both inductive and deductive approaches.

5.5 Research type

At this point, it is necessary to clarify the type of research undertaken. In order to so, we will consider the nature of the research questions and objectives (Yin, 2009). The objective of the study is to investigate the use of the internet for disseminating financial reporting and to examine the determinants that explain inter-company variations, and the economic consequences of IFR and the IFR perceptions in China. According to Bennett (1991), current research into accounting is concerned with solving problems, investigating relationships and building a body of knowledge. In this area, four levels of research have been identified as follows:

1) Description: Descriptive studies have the objective of illustrating an accurate profile of persons, events or situations and document the phenomenon of interest (Saunders et al., 2007; Marshall & Rossman, 1995).
2) Classification: Still descriptive, but reducing the reporting process, and highlighting similarities and clustering through grouping and classifying.
3) Explanation: An attempt to make sense of observations by explaining the relationships observed and attributing causality based on some appropriate theory.
4) Prediction: Going beyond the understanding and explaining of the prior stage, to model observations in a way that allows testable predictions to be made of unknown events.

The current study was conducted using a combination of descriptive, classification based, explanatory and predictive research. First, it illustrated the current situation regarding Internet financial reporting in Chinese listed companies, identifying the similarities and differences between the bigger companies and smaller companies. Secondly, it attempted to explain the relationship between internet financial disclosure and firm size, profitability, leverage, industry type, auditor, share ownership, board size, board independence, CEO duality, and predict how IFR impacts firm value.

5.6 Research strategy: quantitative and qualitative research

> [A] Research strategy is a general plan of how successful you will be in answering the research question you have set. It will contain clear objectives derived from your research questions, specify the sources from which you intend to collect data and consider the constraints, which you will inevitably have (Saunders et al., 2007, p.75).

The distinction between qualitative and quantitative research relies concerns methodology. Bryman (2004) discussed the fundamental differences between qualitative and quantitative research approaches according to the orientation of their role as set out in Table 5.1.

Table 5.1 Fundamental differences between quantitative and qualitative research strategies

	Quantitative	Qualitative
Principal orientation to the role of theory in relation to research	Deductive; testing the theory	Inductive; generation of theory
Epistemological orientation	Natural science model, in particular positivism	Interpretivism
Ontological orientation	Objectivism	Constructionism

Source: Bryman (2004)

Hussey and Hussey (1997) state that a quantitative approach provides objective and unbiased results not influenced by the researcher. Moreover, according to Bryman (2004):

> "quantitative research can be constructed as a research strategy that emphasises quantification in the collection and analysis of data that:
>
> - Quantitative research entails a deductive approach to the relationship between theory and research, in which the accent is placed on the testing theory;
> - Quantitative research has incorporated the practices and norms of the natural scientific model and of positivism in particular;
> - Quantitative research embodies a view of social reality as an external, objective reality." (p.36)

Moreover, Bryman (2004) outlines several criticisms of quantitative research, which are as follows:

1) Quantitative researchers fail to distinguish people and social institutions from "the world of nature".
2) The measurement process possesses an artificial and spurious sense of precision and accuracy. Arguably, the connection between the measures developed by social scientists and the concepts they are supposed to be revealing is assumed rather than real.
3) The reliance on instruments and procedures hinders the connection between research and everyday life.

By contrast, Bryman (2004, p.36) defines qualitative research as a research strategy that emphasises words rather than quantification in the collection and analysis of data; thus:

- Qualitative research predominantly emphasises an inductive approach to the relationship between theory and research, placing emphasis on the generation of theories.
- Qualitative research rejects the practices and norms of the natural scientific model, positivism in particular, preferring to explore the ways in which individuals interpret their social world; and
- Qualitative research embodies a view of social reality as a constantly shifting emergent property created by individuals.

Collis and Hussey (2003) define qualitative research as "a subjective approach which includes examining and reflecting on perhaps in order to gain an understanding of social and human activities". Creswell (2003) identifies the following characteristics with qualitative research:

1) The natural setting provides the data source directly; the researcher goes to the participants' place of work to conduct the research.
2) Qualitative data is collected in the form of words or pictures.
3) Qualitative research is not tightly prefigured, but is emergent. New questions may arise during the interviews or collection process.
4) The researcher offers a personal interpretation of the data.
5) Qualitative researchers are interested in understanding how things occur, and focus on the process that is occurring, as well as outcome.
6) Qualitative research focuses on participants' experiences.
7) Qualitative methods permit the researcher to study the selected issues in depth and in detail (Patton, 2002).

However, Bryman and Bell (2003) clarified that a combination of both quantitative and qualitative research methods can be ideal, as the findings resulting from each method can support those from the other. Therefore, researchers may wish to adopt quantitative research practices in order to explore specific issues in which they have an interest, whilst also employing qualitative research techniques to gain access to their participants' perspectives. Tashakkori and Teddlie (1998) observed that researchers have increasingly applied a combination of methods to the same research project.

5.7 Research strategy for this study: triangulation method

The initial step was to choose a research method to determine an approach. This step is considered crucial, because the selection of the most appropriate research approach enables the researcher to make clear decisions concerning the research design, and promotes awareness of the constraints of the research within a particular approach (Easterby-Smith et al., 1991). Significantly, Yin (2009) stated that researchers may adopt several strategies when approaching their research, and Saunders et al. (2007) identified two major advantages of utilising multiple research methods:

1) Different methods may be used for different purposes.
2) Different data collection methods may be used to provide convergent evidence (a process referred to as triangulation).

Previously, the majority of IFR studies have employed a quantitative approach as the research method. However, the intention of the present study was to combine quantitative and qualitative methods to assess IFR practices. A mixed methods research approach is recognised as one of the three major 'research paradigms' (Johnson et al., 2007). Triangulation entails using more than one method or source of data in the study of social phenomena, and is also defined as the use of different research approaches and techniques within the same study (Collis & Hussey, 2003); it can be used to strengthen the assertions of the research findings (Arksey & Knight, 1999). Moreover, Glaser and Strauss (1967) reasoned that both forms of data are useful and can supplement each other to increase understanding of what is being studied. Therefore, triangulation is a strategy that can be used to strengthen the certainty of the research findings (Arksey & Knight, 1999). Denzin (1970) identified multiple types of triangulation for use within the same investigation; these include:

1) Methodological triangulation – the use of multiple methods to collect data.

2) Data triangulation – the use of a variety of data sources in a study, concerning person, time and space.

3) Investigator triangulation – whereby multiple researchers are employed to investigate the same problem.

4) Theoretical triangulation –approaching the research with varied perspectives and hypotheses.

In addition, Flick (1998) stated that the use of multiple methods within a research project reflects an attempt to secure an in-depth understanding of the phenomenon.

Furthermore, a combination of multiple methodological practices, empirical materials, perspectives and observations in a single study is inherently a strategy that adds rigour, breadth, complexity, richness and depth to any inquiry (Flick 1998). Likewise, the use of multiple methods assists data triangulation, whilst simultaneously providing an effective way to overcome the majority of the intrinsic weaknesses in each method employed (Gray, 2009). Therefore, an overall approach for this study is one that combines qualitative and quantitative research, and the adoption of mixed methods research allows this thesis to achieve data triangulation and complementarity.

5.8 Sample selection and data collection for quantitative research

In accordance with the objectives of this thesis, a strategy utilising Internet surveys was considered appropriate, since, according to Marsh (1982), an online survey facilitates the collection of a large amount of quantitative data in an economical way.

Likewise, considering the time limitation of the research, a cross-sectional design was selected, in which information could be elicited from the web for a single period of time. The advantage of conducting a cross-sectional study is that it is relatively inexpensive and requires less time to conduct the research. However, the greatest disadvantage was that the data collected only supplies a snapshot, thus providing no indication of the sequence of events. This being so, it is impossible to generate causal inference. In addition, the data could be susceptible to the influence of historical events (Saunders et al., 2007).

The research for this thesis employed content analysis. Berelson (1952) described content analysis as a research technique commonly used for the objective, systematic and quantitative description of the manifest content of communication. It is also defined as a technique for making inferences by objectively and systematically identifying specified characteristics of messages (Holsti, 1969). Similarly, according to Krippendorff (2004), content analysis is a method for making inferences from published media in a systematic manner, and has been used in empirical social science research for many years, mainly in the field of communication research. It is a widely used research technique in accounting literature; in particular, for analysing financial accounting research and voluntary disclosure in corporate reports (Unerman, 2000).

According to Bryman and Bell (2011), the advantage of content analysis is that it is a very transparent research method, since the coding scheme and sampling procedures can be clearly set out to enable feasible replications and follow up studies. This transparency explains why content analysis is often referred to as an objective method of analysis. It can facilitate a certain amount of longitudinal analysis with relative ease. Furthermore, content analysis is often referred to favourably as an unobtrusive method; a term devised by Webb et al. (1966) to refer to a method that does not entail participants in a study having to take the researcher into account, hence it is a nonreactive method. Moreover, it is a flexible method, which can be applied to a wide variety of different kinds of unstructured information. Significantly, content analysis can enable the generation of information concerning social groups to which it would otherwise be difficult to gain access.

However, it is not always possible to achieve full transparency with content analysis (Beattie & Thomson, 2007), and there are some limitations in terms of investigating disclosures. According to Unerman (2000), the limitations of content analysis methods, which need to be taken into consideration, relate to subjectivity in connection with the coding process. Furthermore, Milne and Adler (1999) suggest two reliability issues:

1) Demonstrating that the data produced from the analysis is reliable.
2) Verifying that the applied coding instrument is reliable.

Likewise, content analysis can only be as good as the documents on which the practitioner works. It is almost impossible to devise coding manuals that do not entail some interpretation on the part of coders. Furthermore, Unerman (2000) argues that quantification is a major concern when applying this research method, because the application of different methods inevitably leads to different impressions of the relative importance of chosen themes. Particular problems are likely to arise when the aim is to impute latent rather than manifest content. Moreover, it is difficult to ascertain the answers to ’why’ questions through content analysis (Bryman, 2004). Furthermore, content analysis is acknowledged to be a means of attaining details of quantity of disclosure rather than quality of characteristics. However, quantity of disclosure does not indicate what is being disclosed.

5.8.1 Sample selection

The initial task, in order to answer the question and fulfil the content analysis, was to select the samples. The sample companies were selected from the SHSE and SZSE and are the top one hundred and fifty and the bottom one hundred and fifty in terms of market cap by 2010 year end. In order to establish whether each of these companies has a website, five approaches were used: CSRC official website, SHSE official website, SZSE official website, CNINFO website (designed by the CSRC for disclosing financial information), and search engines such as Google and Baidu (the most popular Chinese search engine). Finally, if these approaches failed, direct contact was made by telephone to determine whether they had established a corporate website. The data for company size, leverage, profitability, growth ratio and firm value, as well as corporate governance factors was obtained from the Company Guide published by the SHSE, SZSE and the Wind financial database website; all other data was obtained from the companies' websites.

There were several reasons for deciding upon this sample. Firstly, as the sample was composed of the one hundred and fifty largest listed companies and one hundred and fifty small and medium size listed companies, separate cases would be used for each size of company due to the differences in financial reporting practices (and perceptions) between the large, small and medium sized companies (Ettredge et al., 2001). Secondly, the sample companies offered a good comparison between the two group samples. The third reason is that the sample size was representative enough to fulfil the purpose of this study. Finally, the study of the sample enabled the researcher to reach conclusions about the set of hypotheses.

Since website content and design are frequently updated, it was important to analyse the content and usability of all the samples' websites on a specific date (Abdelsalam et al., 2007). In accordance, the aim of this project was to use Offline Explorer software to download all the sample websites in a single day. Offline Explorer software is a Microsoft Windows offline browser that enables the downloading of an unlimited number of websites for later offline viewing, searching, browsing or updating. In order to test the reliability of the software, thirty sample websites were randomly downloaded in mid-November 2010 and mid-December 2010, with a specified starting page using the URL address of the company, directing the programme to download all files linked to the starting page, from the starting server up to level five. Following the

downloading, the results were compared to the thirty sample websites in order to observe whether any items were missing in the downloaded folder. Significantly, there were a relatively high percentage of items missing in this pilot study (possibly caused by the Chinese web server not being open to public users). Hence, full data collection continued to be reliant on checking the companies' live websites between January 2011 and June 2011.

Table 5.2 Illustrating the process of the final sample

Sample selection	
Original sample	300
No web address	9
Firms having a web address	291
Page cannot be displayed	7
Firms having web address	284
Final sample	284

5.8.2 Data collection for variables

5.8.2.1 Development of IFR checklist

According to Beattie et al. (2004, p210), there are difficulties when assessing disclosure directly, "disclosure index studies assume that the amount of disclosure on specified topics as proxies for the quality of disclosure". The creation of an index is a form of content analysis, and one of the main techniques used to study information provided by companies (Álvarez et al., 2008). A disclosure index is a research instrument to measure the extent of the information reported in particular disclosure vehicle(s) by a particular entity, according to a list of selected items of information. In many cases, a simple binary coding scheme is used, whereby the presence or absence of an item is recorded. Other coding schemes incorporate ordinal measures, to allow the "quality" of the specific disclosure to be assessed.

In spite of the contributions made by various existing indices to measure disclosure practices, they suffer a number of drawbacks. Marston and Shirves (1991, p195) note the index score "can give a measure of the extent of disclosure but not necessarily the quality of disclosure". Nevertheless, they have concluded that while the construction of disclosure indices inevitably involves subjective judgement, it has proven to be a valuable tool and will continue to be used for as long as company disclosure is the focus of research.

The first step in the construction of a disclosure index is the selection of items (Marston & Shrives, 1991). Therefore, a disclosure checklist was created to carry out the analysis. To ensure that the procedure for constructing the IFR checklist in a study is reliable, certain criteria are developed to guide the selection of disclosure items. The criteria are as follows: a) There should be theoretical or empirical support for including such items; b) items have to be applicable to the IFR of Chinese listed companies; c) items are not to be associated with any specific group of users; d) there should be acceptable variability in disclosure of such items among different companies; and e) items are not biased according to difference in periods of time in the dataset. The disclosure checklist was compiled based on existing literature (Abdelsalam et al., 2007; Marston & Polei 2004; Xiao et al., 2004; Debreceny et al., 2002) and amended to suit Chinese companies. All the websites of Chinese companies were checked, and financial information or items relevant to this study made available on the websites of the Chinese companies.

To consider whether the disclosure index captures all aspects of disclosure in this study, and in order to achieve a more comprehensive disclosure checklist, the checklist was used to develop a total score, to assess the content, timeliness, presentation and usability of the website. FASB (2002) describes IFR in terms of content and presentation. The timeliness, presentation format and usability of content are all equally important, because they encompass the timeliness device, which is likely to improve the quality of the disclosed information (Debreceny et al., 2002). CONTENT examines the specific disclosure items that provide corporate governance information and social and environmental data to investors, while other items can be found elsewhere, such as in the firm's annual report or on a third party's website. Kelton and Yang (2008) suggested that by voluntarily disseminating information on their corporate websites, even though the information may be located elsewhere, companies are choosing to make disclosures more salient to investors and are increasing disclosure transparency. The Internet enables companies to voluntarily communicate share prices, press conferences and other information via emails and webcasts to a large global audience of current and prospective investors (Abdelsalam and Street, 2007). Thus, TIMELINESS examines companies' ability to provide investors with up-to-date, timely information. This could significantly influence the decisions made by the potential or existing investors and other stakeholders (Hanafi et al., 2009). Presentation format can provide disclosures that are more transparent by enhancing the readability, accessibility, and understandability

of financial information (FASB, 2000). Therefore, PRESENTATION examines IFR presentation formats and options provided on a company's website that are not available in the traditional paper format (Kelton and Yang, 2008). USABILITY examines the ease of access to information for all users and the user friendliness of the website. Therefore, the disclosure checklist in this study captures all aspects of Internet disclosure for the Chinese companies.

5.8.2.2 Scoring method

The study focused on verifying issues concerning information disclosure on websites using binary values. All of these items can be measured on a simple yes/no basis, encoded as 1 and 0, respectively. Companies are awarded 1 if they disclose a certain item, and 0 if they do not disclose it, when that item is applicable. Companies were not penalised for items that are irrelevant to them. Therefore, there are two different scores for non-disclosure, either 0 if the item is relevant to that company or no score if it was not applicable (N/A). Determining the applicability of the item concerned is an important procedure (Meek et al., 1995). In order to determine the non-applicable items correctly, a disclosure item is coded as N/A after the IFR disclosure had been examined (Cooke, 1996). Each dependent variable was calculated based on the ratio of the actual IFR comprehensiveness index score obtained by the company relative to the maximum possible index score (based on for the number of applicable IFR comprehensiveness index items). For each company a disclosure index was calculated, where the index I_j for a set of accounts is defined as:

$$Ij = \sum_{i=1}^{nj} Xij$$

where n_j = number of relevant items for j^{th} firm, $n_j \leq 104$

X_{ij} = 1 if i^{th} item disclosed

= 0 if i^{th} item is not disclosed, so that $0 \leq I_j \leq 1$

The dichotomous variable ENGWEB reflects whether a company has an English website. The dichotomous variable FWEB reflects whether a company has financial information on their website. The weighting scheme weights each of the items equally, respectively. The mains reasons to choose a weight for each of the items equally is that subjectivity could arise when assigning weights if users' preferences are unknown

(Meek et al., 1995), and prior studies using weighted and un-weighted scores show similar results (Xiao et al., 2004).

The developed disclosure index was composed of a comprehensive checklist of one hundred and four content items, including sixty-seven items relating to disclosure content, fourteen items concerning corporate governance disclosure, eleven items for social and environmental disclosure, ten items regarding timeliness, fourteen items concerning presentation format, and thirteen usability items (see Appendix 1). Following Haniffa and Cooke (2002), the final scoring sheet consisted of 104 IFR disclosure items after removing items not disclosed by 95% of the companies.

There are nine dependent variables with regards to disclosure (see Table 5.3). The eight disclosure indexes measure the level of the web-based corporate reporting:

1) TOTALSCORE indicates the total score including all one hundred and four collected items
2) CONTENT indicates the total score for the sixty-seven items
3) TIMELINESS indicates the total score for the ten timeliness items
4) PRESENTATION indicates the total score for the fourteen presentation items
5) USABILITY indicates the total score for the thirteen items
6) CG is the total score for the fifteen corporate governance disclosure items
7) SOCIAL indicates the total score for the eleven social and environmental disclosure items
8) ENGWEB indicates a company that has an English version website.
9) FWEB indicates a company that has financial information on its website.

5.8.2.3 Firm value variables

In order to test the economic consequences of IFR, two widely used measures of the valuation of listed companies were applied in this study: Tobin's Q and the Market to Book ratio. Tobin (1969) originally introduced Tobin's Q ratio in an attempt to explain aggregate investment behaviour in the economy, arguing that if Tobin's Q exceeded unity firms would have an incentive to invest, since the value of their new capital investment would exceed its cost. In another words, Tobin (1969) theorised that the economy-wide rate of capital goods investment was related to the ratio (Q) of the market value of assets to the replacement costs of those assets. However, since then slightly different formulations of Tobin's Q have been implemented, in an effort to

capture the theoretical argument that relates market value to the cost of replacing those assets. Therefore, this empirical study follows the definition of Tobin's Q based on the methodology of Lindenberg and Ross (1981), who assumes that the replacement values of assets equals book value. Moreover, a similar method was applied to calculate Tobin's Q in research by Lang and Stulz (1994), Ezat (2010) and Shan and Xu (2012). The advantage of using this methodology is that it utilises only basic financial and accounting information, thereby avoiding the data availability problems created by the estimation of the more theoretically correct model.

The approximation is defined as follows:

Tobin's Q = (Market value + Preferred stock+ Debt)/ Book value

Where,
Market value = the year-end market value of the firm's common stock;
Preferred stock = the year-end book value of the firm's preferred stock;
Debt = the year-end book value of the firm's debt;
and Book value = the firm's year-end book value of total assets.

As no preferred stock exists in China, the above formula reduces to:

Tobin's Q = (Market value + Debt)/ Book value in 2010 and 2011

Alternatively, the Market-to-Book ratio (MBR) is widely used in the literature, and is taken to indicate the value that the market places on the common equity or net assets of a company (Ceccagnoli, 2009; Lee & Makhija, 2009), or as a reflection of the ability of managers to use assets effectively and to grow the firm. The ratio is largely used to indicate the premium that the market pays for the net assets; a high MB ratio is taken to indicate a high marginal efficiency of capital (rate of return) and reflects high added value by the management over the replacement cost of net assets. For the purposes of this study, the approximation is defined as follows:

Market to Book Ratio (MBR) = Market Value of Equity/Book Value of Equity in 2010 and 2011.

5.8.2.4 Explanatory variables

The explanatory variables include the firm characteristics: SIZE is measured as the natural logarithm of capitalisation at 2011, the PROFITABILITY is the average return on assets in 2010, and LEVERAGE is the ratio of total liabilities to total assets in 2010. STASHARE and LEGSHARE measure the percentage of shares owned by state owned corporations or legal persons, respectively. Furthermore, FSHARE includes the percentage of all the other shares held by foreign investors, including B shares and H shares. BIG 4 indicates a company audited by a Big-4 international audit firm, and the INDUSTRY indicates whether the company is in the high technology category, on a yes and no basis, coded as 1 and 0, respectively (for high technology industry classification, see Chapter 4.3.4). Corporate governance factors include BOARDSIZE, which is the number of board directors, CEODUALITY (1 for CEO and the chairman positions occupied by one person, 0 indicates otherwise), and INDEPDIR (measured by the proportion of independent directors to the total number of directors). All these variables were obtained from the sample companies' publicly disclosed reports for 2010 (with the exception of the Size) - see Table 5.3.

Following the data collection and coding, an overview of the use of the Internet for disseminating financial information will be provided; both univariate and multivariate analytical approaches are employed in the descriptive study. Furthermore, sensitivity analytical approaches will be used to test different ways to measure the size of the company (total assets, turnover, and employee numbers).

Table 5.3 Explanations of dependent and independent variables

Dependant variables	Description of variables	Source of information
TOTAL SCORE	Total score for all 104 disclosure items	Company website
CONTENT	Total score for 67 content items	Company website
TIMELINESS	Total score for the 10 timeliness items	Company website
PRESENTATION	Total score for 14 presentation item	Company website
USABILITY	Total score for the 13 usability items	Company website
CG	Total score for 15 content items	Company website
SOCIAL	Total score for 11 content items	Company website
ENGWEB	1 if the company has an English website, 0 otherwise	Company website
FWEB	1if the company has financial information on its website, 0 otherwise	Company website
FIRM VALUE	Tobin's Q (Market Value of Equity + Book Value of the Total Debt)/ Book Value of Total Assets in 2010 and 2011	Company guide by SHSE/SZSE
	MBR in 2010 and 2011	Company guide by SHSE/SZSE
Explanatory variables		
SIZE	Natural logarithm of market capitalization in 2010	Company guide by SHSE/SZSE
PROFITABILITY (ROA)	Rank transformed average return on assets in 2010	Company guide by SHSE/SZSE
LEVERAGE	The ratio of current liabilities to current assets in 2010	Company guide by SHSE/SZSE
BOARDSIZE	The number of board directors in 2010	Company guide by SHSE/SZSE
STASHARE	Share held by state-owned corporations as proportion of total shares in 2010	Wind financial database
LEGSHARE	Share held by legal persons as proportions of total shares in 2010	Wind financial database
FSHARE	Share held by foreign shareholders in 2010	Wind financial database
BIG 4	1 for companies audited by a big-4 auditing firm in 2010, 0 otherwise	Wind financial database
INDUSTRY	1 for companies in high technology industry in 2010, 0 otherwise	Company guide by SHSE/SZSE
INDEPDIR	Independent directors as a proportion of totals directors in 2010	Wind financial database
CEODUALITY	1 for CEO and the chairman positions occupied by one person in 2010, 0 otherwise	Wind financial database

5.8.3 Reliability assessment and validity assessment

Reliability concerns the extent to which an experiment, test or any measuring procedure yields the same results in repeated trials (Carmines and Zeller, 1991). Reliability is defined as "whether an instrument can be interpreted consistently across different situations" (Field, 2009, P.12). It concerns the ability of measurement instruments to reproduce consistent results in repeated measurements (Hassan and Marston, 2010). Sekaran (2003) reports on the reliability of a measure as an indication of both the stability and consistency of measuring the concept using the research instrument. Stability refers to the ability of the measure to remain the same over time and to repeat the same results when used by another researcher (Marston and Shrives, 1991), while consistency indicates the homogeneity of the checklist items as one set in measuring a concept (Sekaran, 2003).

There are three common forms of reliability: test-retest, inter-coder reliability, and internal consistency (Hassan and Marston, 2010). This study used test-retest to ensure the reliability of the project. After collecting the data from the web in September 2011, a colleague of the author's randomly checked 50 sample websites to ensure the reliability of the research. The test-retest measures the stability of the results obtained from a measurement instrument over time (Hassan and Marston, 2010) and by different parties.

Validity is defined as "the extent to which any measuring instrument measures what it is intended to measure" (Carmines and Zeller, 1991, P.20). There are three common types of validity: criterion validity, content validity and construct validity (Hassan and Marston, 2010). Correlation coefficient and Cronbach's alpha are commonly used tests of internal reliability. Cronbach's alpha essentially calculates the average of all possible spilt-half reliability coefficients. A computed alpha coefficient will vary between 1 (denoting perfect internal reliability) and 0 (denoting no internal reliability). The figure of 0.7 is typically employed as a rule of thumb to denote an acceptable level of internal reliability. Cronbach's alpha calculation is used in this research. In order to check the validity of the research, the author used Cronbach's alpha test on the five dependent variables (TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION and USABILITY). The result of Cronbach's alpha is .753, which ensured the internal reliability of the research (Table 5.4 and 5.5).

Table 5.4 Cronbach's Alpha A

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.753	0.951	5

Table 5.5 Cronbach's Alpha B

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	0.803
		N of Items	3[a]
	Part 2	Value	0.763
		N of Items	2[b]
		Total N of Items	5
		Correlation Between Forms	0.868
Spearman-Brown Coefficient		Equal Length	0.929
		Unequal Length	0.932
		Guttman Split-Half Coefficient	0.295
a. The items are: TOTALSCORE, CONTENT, and TIMELINESS.			
b. The items are: PRESENTATION, USABILITY.			

5.9 Sample selection and data collection for qualitative research

It was not possible to obtain all the information necessary to accomplish the aim of this study by means of content analysis. Therefore, the decision was taken to incorporate semi-structured interviews, to allow for variation and to elicit more information concerning IFR practices. The benefits of interviews are that they allow the researcher to gain insights and understanding into the issues and complexities associated with a phenomenon, which would be difficult to obtain via archival methods (Beasley et al., 2009). These insights can include data concerning information not yet evidenced in theory (Lillis, 2006), such as key omitted variables (Lillis, 2008). Interviews also

provide rich insights for exploring, identifying, and understanding viewpoints, attitudes, and influences (Healy & Perry, 2000). Moreover, they allow flexibility (Silverman, 1993), and can elicit highly detailed data such as insights into participants' experiences (Cohen et al., 2002).

There are three possible types of interview: structured interview, unstructured interviews and semi-structured interviews. Structured interviews, sometimes called standardised interviews, are usually conducted according to a face-to-face format or via telephone, using a standard set of questions to obtain data that can be aggregated, because identical questions have been asked of each participant. The nature of the questioning route for structured interviews is fixed, arranged in a given order, and standardised. The aim is for all interviewees to be questioned in exactly the same way. Conversely, unstructured interviews are conducted using a face-to-face format and generally aim to encourage participants to share stories. The researcher begins from the position of wanting to be sensitive to how participants construct their views and perspectives. Therefore, a key goal is to allow the participants to dominate and structure the interview process. The nature of the questioning route involves asking questions to encourage participants to discuss constructs/variables of interest with the researcher.

Finally, semi-structured interviews can cover a wide range of instances. These typically refer to contexts in which the interviewer arranges a series of questions in the general form of an interview schedule, but is free to vary the sequence of these questions when conducting the interview. Moreover, the questions asked in semi-structured interviews are frequently somewhat more general in their frame of reference than those typically included in a structured interview schedule. Flick (1998) suggests that in a semi-structured interview "more or less open-ended questions are brought to the interview situation in the form of an interview guide" (p.94). In addition, the interviewer usually has some latitude to ask additional unprepared questions in response to any replies that are perceived as significant. According to Marston (1999), semi-structured interviews "afford respondents the freedom to answer questions without restricting their responses, while the use of interview framework or agenda, may prevent excessive deviation from the research questions and issues" (p12).

Therefore, the semi-structured interview format was chosen as the most appropriate for this study. The interviews will help the researcher to reveal and understand 'what' and

'how', while emphasising 'why' questions (Saunders et al., 2007). There has been no previous research undertaken concerning the area of perceptions of IFR research in China. The semi-structured interview combines the advantages of both fixed response and open-ended interviews, by establishing a main theme to be covered, whilst allowing for the sequence and the content of the interview to be flexible (Freebody, 2003). Furthermore, Weetman (1994) concluded that there are several advantages to such interviews when compared with questionnaires: specific and detailed answers by interviewees, clarity of answers, and the participation of interviewees in the soft "cross-examination" process can unravel truthful information and insights.

5.9.1 Sampling of respondents for the interviews

Initially, twenty-seven participants were identified through "snowball procedures" (Tremblay & Gendron, 2011). Saunders et al. (2007) recommended that the researcher makes initial contact with just one or two cases and asks them to identify further cases. This procedure was followed for the purposes of this study. In mid-December 2010 in China, the researcher met up with a few analysts and participants identified through previous job connections, and they were asked to identify other potential interviewee groups, including twenty-five participants from the sample companies. In total, during September to December 2011, 27 interviews were carried out with the companies, comprising 14 face-to-face interviews and 13 telephone interviews. These included: 15 interviews with companies with websites that include financial information; 7 interviews with companies that have websites but do not include financial information; 3 interviews with companies without websites, 2 interviews with regulators (Table 8.1). 14 interviews were conducted in person and 13 by telephone, with the interview questions being identical in both cases. 8 of the 14 interviews conducted face-to-face were taped with the interviewees' consent, along with explanatory notes. 6 of the face-to-face interviews, and 13 of the telephone interviews, were not taped, but detailed notes were taken.

5.9.2 Development of interview instrument

Once the interview groups were confirmed, the interview themes were sent to them. According to Saunders et al. (2007), providing participants with a list of interview themes prior to the actual interview may help to promote the credibility of the interviewers. Additionally, it may 'promote reliability and validity by enabling the interviewee to consider the information being requested'. In a semi-structured interview,

an interview guide serves as a framework that ensures all particular sub-topics of interest have been covered and that more detailed or thoughtful information can be obtained (Arksey & Knight, 1999). For the purposes of this study, a standardised interview guide was used for all interviews to provide a consistent approach and coverage of identical themes in each interview (Beasley et al., 2009). The interview guide is normally designed to be a list of questions that the interviewer intends to ask during the interview, but from the interviewees' perspective (Bryman, 2004).

The interview questions were designed to encourage participants to "reconstruct their experience and to explore their meaning" (Seidman, 1998, p.76). Moreover, the interview questions were derived from the literature review in Chapter 3, including the literature concerning the motivations for constructing and maintaining websites; factors influencing why some companies do not disclose financial reporting on their websites and why some companies have no websites at all; perceptions of IFR and future implications for IFR. The interview guide included five themes and covered a number of issues that are treated as sub-themes (see Appendix 2).

5.9.2.1 Reliability and validity of the research instrument

Creswell (2003) indicated that with regard to qualitative research, reliability can be used to test consistent patterns of theme development amongst different investigators on a team. Furthermore, Hammersley (1990, p71) stated that validity means "truth: interpreted as the extent to which an account accurately represents the social phenomena to which it refers". Validity is regarded as "strength of qualitative research", as it is used to determine whether the findings are accurate from the point of view of the participants and the researcher. Similarly, Mason (1996) argued that reliability measures are more applicable to quantitative research, as they measure the consistency with which the same methods of data collection produce the same results. The logic behind reliability is that if the same phenomenon is measured more than once, using the same instrument, then it follows that the same results should be obtained. Therefore, qualitative researchers are unable to perform simple reliability tests, because the data generated will not have the form of a clearly standardised set of measurements. As a result, Mason (1996) suggested that reliability in qualitative research could be achieved by ensuring and demonstrating to others that the generation and analysis of data are not only appropriate to the research questions and objectives, but are also thorough, careful, honest and accurate. Therefore, researchers should demonstrate that they are not

careless in their recording and analysis of data and that the data was not invented or misrepresented.

The translation of the Chinese interviews into English generates limitations. Sometimes, exact meanings are difficult to reproduce in a second language which has evolved in a different cultural context. In order to address such issues, the researcher re-contacted the participants to clarify any unclear matters. In addition, the researcher asked a colleague to review the translations of a few samples of the transcripts in order to ensure the validity of the translation.

5.9.2.2 Ethical considerations of the research instrument

It is necessary to exercise caution, since semi-structured interviews allow individuals to disclose thoughts and feelings, which are clearly private. The method relies on the inter-personal skills of the interviewer, and their ability to establish relationships and rapport. These are valuable qualities, but ethically very sensitive. Therefore, at the outset of the interview, the types of questions to be asked, issues of confidentiality and often anonymity have to be thoroughly assessed and discussed (Newton, 2010). In addition, Creswell (2003) indicated that ethical issues should continue to be considered during the data analysis and interpretation, and during the actual writing and dissemination of the research report. For the purposes of this study, all the interviewees were assured of their anonymity.

5.9.3 Data analysis

Studies have demonstrated that there is no fixed method for analysing qualitative data (Yin, 2009). However, one of the main challenges associated with qualitative methodologies concerns the volume of data, and the large undertaking involved in processes such as: reducing the volume, identification of significant pieces of information and patterns, interpreting and making sense of information, and communicating findings (Patton, 2002). According to O'Donovan (1999), the use of semi-structured open-ended questions in qualitative research results in an enormous quantity of qualitative data. The data analysis approach undertaken involves a count of the frequency with each quality characteristic is mentioned by respondents. The aim of the analysis is to blend themes, quotes from participants, the author's interpretation of these quotes, and a consideration of multiple theoretical perspectives to provide insights into the IFR practice (Hermanson et al., 2012).

The use of computer assisted qualitative data analysis software (CAQDAS) such as Nvivo, offers a number of advantages (Bryman & Bell, 2011): CAQDAS enables researchers to deal with large amounts of qualitative data. This is possible because it reduces the amount of time required for the manual handling of data; it makes the process of coding and retrieval more efficient and faster; it enhances the ability to link, annotate and create relationships and, therefore, facilitates the development of explanations; and it can be used to count the frequency of occurrence of a certain viewpoint in interviews. However, the use of computer software programmes suffers from a few disadvantages: the possibility that the availability of computer analysis may lead to an emphasis on counting the frequency of categories, at the expense of understanding the quality of ideas and experiences (Easterby-Smith et al., 2002). In addition, it is arguable that the critical thinking and the deep understanding about the data comes from the researcher, not the computer software (Omar, 1997). Therefore, in consideration of this, the decision was taken to analyse the transcripts manually.

Initially, the data from each interview was fully transcribed and the translated transcripts were double checked to ensure accuracy (Kamla, 2005). Then the analysis of the contents of the transcripts involved organising interviewee responses into categories depending on the main themes presented in the interview guide. Coding schemes help to categorise and summarise the interview data (Beasley et al., 2009). The coding involves two simultaneous activities (Neuman, 2006): the mechanical data reduction and the analytic categorisation where the reduced data is organised, linked and pulled out according to the main themes. Since the data collection originated from a theoretical framework (see Chapter 4.2), a preliminary coding scheme was developed to reflect the framework, to ensure consistency between the interview data and the questions in the interview guide. The codes were refined into sub-categories to enable greater precision and to explain the initial constructs (Strauss & Corbin, 1998). Based on the coded data, the researcher developed structured summaries for each participant and each code presented in the codebook. Tables and displays were developed using these summaries to provide a basis for comparative analysis. The aim of analysis is to present a combination of themes and quotes from participants, including the author's interpretation of quotes, numerical results and consideration of multiple theoretical perspectives (Hermanson et al., 2012), to provide insight into the phenomenon of IFR practice.

5.10 Summary

This chapter discussed the methodological decision taken and explained the overall procedures implemented for collecting, analysing, interpreting, and reporting the data. Taking into account the research purposes of this study and the general research question, the use of a combination of quantitative and qualitative methods made it possible to take advantage of triangulation and complementarity, and enhanced the validity of the overall research.

Chapter 6 Descriptive analysis and multivariate regression analysis of IFR by Chinese listed companies

6.1 Introduction

This chapter describes the results of the statistical analysis carried out in this study and is divided into three main parts. The first section describes the results of the survey of information from the websites and the measurement of dependent variables. The second section presents the results of the correlation between IFR disclosures and dependent variables, while the third section discusses the results of determinants of the IFR disclosures. Following a descriptive study, univariate and multivariate analysis were then used to test the hypotheses discussed in Chapter 4. The results of two logistic analysis test factors were affected by whether sample companies' websites had English-language versions or provided financial information. Additional sensitivity analysis was carried out using the alternative weighting system of IFR content and other components, the different measurement of company sizes and profitability. Conclusions are presented at the end of the chapter summarising the findings of the study.

6.2 Descriptive statistics

Descriptive statistics are used to summarise and describe the amount and presentation of information on corporate websites as well as a combined measure of independent and dependent variables. The original sample, which consisted of 150 of the largest and 150 of the smallest companies, was selected from the Shanghai and Shenzhen Stock Exchange; 284 (95%) of the companies had accessible websites. These 284 Chinese listed companies were rated based on the identified disclosure index. Table 6.1.1-6.1.7 provide details of the number and frequency of the companies disclosing the individual items in the IFR checklist. Table 6.2 shows the frequency distribution of IFR total scores between the companies. Table 6.3 describes the categorical variables in this study. Table 6.4 and Table 6.5 provide the descriptive statistics for dependent variables and independent variables, such as the mean, median, standard deviation, variance, skewness, kurtosis, range, minimum and maximum value. Those several descriptive statistics are often used to give a full picture of the data.

6.2.1 Disclosure frequency

The disclosure checklist includes 104 items, of which 67 are content items, 10 are timeliness items, 14 are presentation items and 13 are usability items. In the following paragraphs, these content, timeliness, presentation and usability items are grouped and an analysis of the items in each group highlights the importance of each group in explaining the IFR practice by the Chinese listed companies. The highest frequency of companies disclosing item achieved in this survey was 100% (Graphic images) and the least frequency (Calendar for future financial events) was 9%. This indicates that there is a high degree of variation in the quality of the sample websites and the amount of information presented. The following sub-sections discuss the extent of disclosure among the groups of information, which comprises the disclosure index.

6.2.1.1 Content items disclosed on websites

Content, a fundamental part of any website analysis, is considered by many users to be the only criterion for website evaluation, provided that the site belongs to a reputable, credible, well-known, recognised, trusted or respected source (Tillotson, 2002). In this section, content disclosure, including accounting and financial information, corporate governance information, social responsibility information and contact details, were used to assess the quantity of information disclosed on Chinese listed companies' websites.

1) Accounting and financial information

Investors increasingly rely on corporate websites for periodic and annual financial statements (Allam and Lymer, 2003; Ettredge et al., 2000). A total of 36 accounting and financial information items were included in this study. It was found that the highest s frequency of companies disclosing item achieved in this survey was 68%, was for past financial highlights, whilst the lowest frequency of companies disclosing item, was 10%, concerned earnings and sales forecasts. Some Chinese companies publish only their financial highlights on their websites, whilst others publish balance sheets, income statements and cash flow statements. This study found that about 67% of the total sample disclosed their current year balance sheet, income statement, and cash flow statement on their websites, whilst 63% of the companies disclosed their past year balance sheet, income statement, and 67% of past year cash flow statement. The annual

report is normally available about three months after the end of financial year. A total of 62% of the sample companies in this study disclosed their current annual report and 57% disclosed their past year annual reports. In contrast to Xiao et al. (2004), 44.3% of sample companies provided a current year balance sheet and current year income statement and 42.4% provided current year cash flow statement. A total of 63.5% sampled companies in Xiao et al. (2004) provided their past year balance sheet, past year income statement and cash flow statement. Xiao et al. (2004) also found that only 33% of companies surveyed disclosed their current year annual report and 45.8% companies provided the past year annual report. These results show a steady improvement in the financial information disclosed on companies' websites.

The auditor's report is an important source of credibility and reliability for annual reports. A formal auditor's report must be signed and dated by the auditor. It was found that 60% of sampled Chinese listed companies provided auditors' reports on their websites. In contrast, a study (Allam and Lymer, 2003) suggests that the availability of audit reports is much greater, in Hong Kong with 89.8% of a sample of 50 companies providing auditing data. Share price information is critical for investment decision making. Historical prices and past share price performance may be an indicator of future performance. In relation to the stock market index, 34% of companies disclosed share price history. Compared to the results of Xiao et al. (2004), only 5.4% of the surveyed companies provided share price history in their study. However, Marston and Polei (2004) found that 93% of German companies disclosed the same item on their websites. Another study by Kelton and Yang (2008) found that 62.3% of companies listed on the NASDAQ National Market disclosed share price history on their websites.

Table 6.1.1 Disclosures of checklist items by the sample companies (Accounting and Financial information)

Accounting and Financial information	Number	Percentage
1.1.1 Balance sheet of current year	190	67%
1.1.2 Balance sheet of past year	179	63%
1.1.3 Income statement of current year	190	67%
1.1.4 Income statement of past year	179	63%
1.1.5 Cash flow statement of current year	190	67%
1.1.6 Cash flow statement of past year	190	67%
1.1.7 Notes to the financial statement of current year	182	64%
1.1.8 Notes to financial statement of past year	173	61%
1.1.9 Auditor report of current year	170	60%
1.1.10 Auditor report of past year	153	54%
1.1.11 Quarterly report of current year	182	64%
1.1.12 Quarterly report of past year	182	64%
1.1.13 Half-year report of current year	176	62%
1.1.14 Half-year report of past year	176	62%
1.1.15 Annual report of current year	176	62%
1.1.16 Annual report of past year	162	57%
1.1.17 Top ten stockholders in the current year	185	65%
1.1.18 Statement of changes in stockholders' equity	190	67%
1.1.19 Management report	173	61%
1.1.20 Share price history	96	34%
1.1.21 Market share of key products	62	45%
1.1.22 Share price performance in relation to stock market index	119	42%
1.1.23 Summary of key financial ratios	193	68%
1.1.24 Past press release	275	97%
1.1.25 Segmental reporting	182	64%
1.1.26 Financial statements according to China GAAP	210	74%
1.1.27 The difference between China GAAP and IFRS	48	52%
1.1.28 Past financial highlights/summary	193	68%
1.1.29 Earnings or sales forecast	28	10%
1.1.30 Industry statistics or data	43	15%
1.1.31 Past dividends	168	67%
1.1.32 Performance analysis	125	44%
1.1.33 Links to financial analysts	74	26%
1.1.34 Links to Chinese Stock Exchange	62	22%
1.1.35 Supplement or Amendment to current year annual report	28	34%
1.1.36 Earnings release	136	48%
Total Accounting and Financial information 36		

2) Corporate governance information disclosed on websites

Corporate governance disclosures are highly important for investors in determining the extent to which companies may uphold integrity and good corporate governance. The transparency and disclosure study conducted by S&P in 2001 and 2002 provides corporate ranking scores based on the quantity of governance-related disclosure (Patel and Dallas, 2002): ownership structure and investors rights, board and management structure and process and financial transparency and information disclosure. In this study, the index contained 15 items of corporate governance information; the level of disclosure varied from a maximum of 73% to a minimum of 17%. It was found that 73% of the sample companies disclosed notice of meetings and agendas to annual shareholders' meeting on their websites. A total of 61% of the companies disclosed the remuneration of board of directors on their websites in this study, a very high figure compared to the results of Boubaker et al. (2012). Only 2.45% of French listed companies disclosed this item on their websites. It was found that 67% of Chinese listed companies disclosed ownership on their websites. Similar findings were obtained by Boubaker et al. (2012), who found that 47.17% companies disclosed the same item. On the other hand, 52% of the Chinese listed companies surveyed provided the chairman's message to shareholders.

Table 6.1.2 Disclosures of checklist items by the sample companies (Corporate Governance information)

Corporate Governance information	Number	Percentage
1.2.1 Notice of meetings and agenda to annual shareholders' meeting	207	73%
1.2.2 Speeches of the management board during the AGM	170	60%
1.2.3 Articles of Association	122	43%
1.2.4 Code of Ethics	48	17%
1.2.5 Board of directors names or photos	80	28%
1.2.6 Board of directors (C. V, profiles and executives/non executives)	185	65%
1.2.7 Remuneration of board of directors	173	61%
1.2.8 Management Team	190	67%
1.2.9 Chairman's message to shareholders	148	52%
1.2.10 Organizational Structure	204	72%
1.2.11 Ownership structure	190	67%
1.2.12 Corporate governance principles/guidelines	102	36%
1.2.13 Management's plan to meet objectives and strategies	161	57%
1.2.14 Charters of audit committee	88	31%
1.2.15 Charters of other committee	128	45%
Total Corporate Governance information 15		

3) Social responsibility information disclosed on websites

Since the late 1990s, the Internet has become a key communication channel used by companies to disseminate corporate social responsibility information (Campbell, 2004). It is increasingly used by companies as the sole source of corporate social responsibility information; companies now provide more social responsibility information on their corporate websites than they do in traditional 'hard copy' reports (Trabelsi et al., 2004). In this study, the index contained 11 items of Social Responsibility Information; the scores of disclosure varied widely from a maximum of 99% to a minimum of 32%. It was found that almost 99% of sample companies disclosed their company profile on their websites, whilst only 32% of sample companies disclosed their corporate responsibility report. The customer profile could be considered important for investors in determining the liquidity of the company or its risk profile. In Álvarez et al. (2008), only 12.8% of Spanish companies disclosed environmental reports on their websites. Boubaker et al. (2012) found that 28.3% of French listed companies provided an environmental report and 32% of the companies surveyed provided corporate responsibility reports. Álvarez et al. (2008) found that more Spanish listed companies (41.9%) disclosed corporate responsibility reports on their websites. However, Boubaker et al. (2012) found that only 20.75% of French listed companies provided corporate responsibility reports in their study.

Table 6.1.3 Disclosures of checklist items by the sample companies (Social Responsibility information)

Social Responsibility Information	Number	Percentage
1.3.1 Company profile	281	99%
1.3.2 Company history	159	56%
1.3.3 Employee profile/training	142	50%
1.3.4 Human resources Information	236	83%
1.3.5 Environmental /safety health Report	94	33%
1.3.6 Corporate responsibility report	91	32%
1.3.7 Mission/Vision statement	173	61%
1.3.8 Discussing on product quality and safety	185	65%
1.3.9 Certificate of quality assurance (ISO) or awards of best practice (for service Companies)	196	69%
1.3.10 Donations/sponsoring to community groups	159	56%
1.3.11 Links to products services and sales information	261	92%
Total Social Responsibility Information 11		

4) Contact details information disclosed on websites

The availability of contact details on companies' websites is desirable as it enables investors to save the address in their mailing lists and to send requests at any time without the need to visit the company's website. It was found that 89% of companies had some form of investor relations section, compared to 58.6% in Xiao et al. (2004). This reflected an increase in the amount of companies who disclose the existence of investor relations. It was found that 37% of the sampled companies provided e-mail contacts on their web pages, whilst Xiao et al. (2004) suggested that 15.3% of companies provided e-mail contact in China. This study showed an increase compared to Xiao et al. (2004). At the same time, companies in this study lagged behind US companies with regard to e-mail services.

Table 6.1.4 Disclosures of checklist items by the sample companies (Contact Details information)

Contact Details Information	Number	Percentage
1.4.1 The existence of investor relations section	253	89%
1.4.2 Name of investor relations officer	45	16%
1.4.3 E-mail to investor relations	105	37%
1.4.4 Phone number to investor relations	102	36%
1.4.5 Postal address to investor relations	77	27%
Total Contact Details Information 5		

6.2.1.2 Timeliness of information disclosed on websites

Timeliness of voluntary disclosure is a necessary component of relevant financial information to meet the needs of users and to make decisions. The Internet enables companies to voluntarily communicate share prices, press conferences and other information via email and webcasts to large global audiences of current and perspective investors (Abdelsalam and Street, 2007). Fisher, Oyelere & Laswad (2004) identify growing user demand for the increased timeliness of IFR disclosure. With regard to the timeliness of information disclosed on the websites of Chinese sample companies, the checklist contained 10 items. A total of 98% of the companies in this study disclosed current press releases and news on their websites, compared to 9% of companies providing current share price on their websites.

Almost 98% of the companies in this study disclosed current press releases and news on their websites, compared to 60.1% in Xiao et al. (2004). Current share price is one of

the most crucial information for investors to make decisions. As shown in Table 6.1, 59% of sampled companies disclosed their current share price. A total of 93% of sample companies in Germany surveyed by Marston and Polei (2004) provided current share prices.

Table 6.1.5 Disclosures of checklist items by the sample companies (Timeliness of information)

Timeliness of information	Number	Percentage
2.1 Current press releases or news	278	98%
2.2 Current share price	168	59%
2.3 Calendar for future financial events	26	9%
2.4 Pages indicate the latest update	264	93%
2.5 Hints for finding current information directly	170	60%
2.6 Current key financial ratios	187	66%
2.7 Current financial highlight/summary	185	65%
2.8 Option to register for future e-mail alerts regarding press releases, newsletters, etc	31	11%
2.9 The most recent quarterly report reports	159	56%
2.10 Current dividends announcements	114	40%
Total Timeliness 10		

6.2.1.3 Presentation of information disclosed on websites

Presentation is a prime component in making the site easier to use (Calero et al., 2005). Presentation formats can provide more transparent disclosures by enhancing the readability, accessibility and ease of understanding of financial information (FASB, 2000). In relation to the presentation of the sample websites, this checklist contained 13 items of presentation information and the disclosure score varied from a maximum of 100% to a minimum of 10%. It was found that 100% of companies have graphic images on their websites while 12% of companies have investor presentation on their websites.

The most popular formats used in building websites are PDF (Portable Document File) and HTML (Hyper Text Mark-up Languages). Each has its own advantage and disadvantage. PDFs can be used to create exact representations of the original printed documents, with all the elements of the printed document captured as an electronic image. It was found 62% of Chinese companies disclosed their annual reports in PDF format, whilst 17% disclosed their annual reports in HTML format on their websites. About 8% of the sample used both formats on their websites. Xiao et al. (2004) reported that 28.6% of companies disclosed their annual reports in PDF format and 49.3% in

HTML format. In Thailand, Davey and Homkajohn (2004) report that 49% of Thai companies disclose this item in PDF format and 94.5% disclose it in HTML format.

Webcasting events over the Internet are a relatively new technology that allows many investors and analysts with an Internet connection to obtain access to live events, such as conference calls, analysts and road-show meetings regardless of their location (Allam and Lymer, 2003). Only 10% of companies in this study disclosed webcast events on their websites. In contrast, a survey by Allam and Lymer in 2003 found only 4% of companies in Hong Kong provided webcasts in 2003. None of the Indian companies surveyed by Malhotra and Makkar (2012) provided webcasts on their websites.

About 73% of the companies in this study have translated their web pages into English, which could indicate that they wish their website to be accessed by existing and potential shareholders anywhere in the world as part of their focus on globalisation. Compared with Xiao et al. (2004), 47.3% Chinese listed companies provide English-language versions of their websites. In contrast, 96% of German companies had an English-language version of their home page in 2000 (Marston and Polei, 2004).

Table 6.1.6 Disclosures of checklist items by the sample companies (Presentation information)

Presentation	Number	Percentage
3.1 Annual report in PDF-format	176	62%
3.2 Annual report in HTML-format	48	17%
3.3 Any financial statements in PDF format	182	64%
3.4 Any financial statements in HTML format	54	19%
3.5 Graphic images	284	100%
3.6 Flashes (moving pictures)	264	93%
3.7 Sound files	45	16%
3.8 Video files	139	49%
3.9Webcast events	28	10%
3.10 Clear boundaries between the annual report and other information	179	63%
3.11 Change to printing friendly format possible	196	69%
3.12Ability to download information	201	71%
3.13 Investor presentation	34	12%
3.14 English language of home page	207	73%
Total Presentation 14		

6.2.1.4 Usability of information disclosed on websites

Usability is an important aspect of website design that allows users to more easily acquire most of the information they require (Calero et al., 2005). Increased usability enables website users to achieve their goals effectively, efficiently and satisfactorily (Andrés et al., 2009). In this study, there were 17 items in the checklist relating to website usability. The highest score is next/previous/top buttons to navigate sequentially, which scored 97%, and the lowest score is help site, which scored 10%.

Table 6.1.7 Disclosures of checklist items by the sample companies (Usability information)

Usability	Number	Percentage
4.1 Link to annual report on home page	45	16%
4.2 Help site	28	10%
4.3 Pull-down menu	182	64%
4.4 Internal search box	168	59%
4.5 Next/previous/top buttons to navigate sequentially	275	97%
4.6 One click to get to investor relations information	204	72%
4.7 Site Map	136	48%
4.8 Feed Back	94	33%
4.9 Table of contents	99	35%
4.10 Privacy statement	119	42%
4.11 Legal statement	113	40%
4.12 FAQ (in the Investor relation page)	48	17%
4.13 External links (other than Chinese Stock Exchange)	193	68%
Total Usability 13		

6.2.2 Frequencies of IFR total scores

Table 6.2 presents the frequencies of the IFR total scores disclosed by Chinese listed companies. Only 2.8% of companies disclosed over 90 items on their websites. These very high scores suggest that a few companies disclose very comprehensive information on their websites and thus take nearly full advantage of IFR. About 62% of companies' scores were above 50%, which indicates effective usage of the Internet as a disseminating tool in the Chinese context. At the same time, about 17.2% of the companies' scores were between 11 and 20, and 11.3% between 21 and 30. This indicates that some of sample companies still disclose relatively little information online and do not make effective use of the Internet. The wide variation in results can be examined using multivariate analysis (see 6.4.2).

Table 6.2 Frequencies of IFR total scores

Max no. of items disclosed	Number of companies	Percentage
0-10	1	0.4%
11-20	49	17.2%
21-30	33	11.3%
31-40	9	3.1%
41-50	17	6%
51-60	19	7.1%
61-70	63	22.5%
71-80	48	16.6%
81-90	37	13%
Over 90	8	2.8%
TOTAL	284	100%

6.2.3 Descriptive Statistics for Dependent and Independent Variables

6.2.3.1 Descriptive Statistics for Categorical Variables

Table 6.3 shows that of companies with accessible websites, 207 (73%) had an English-language version, whilst 14 (5%) companies had multi-lingual versions. Xiao et al. (2004) found that 47.3% of companies had English-language websites. This study therefore shows that the number of companies offering English-language websites has increased. It was found that 206 (72.9%) of companies provided financial information on their websites. Similarly, Allam and Lymer (2003) found that 96% of companies in five developed countries surveyed disclosed financial information on their websites. Marston and Polei (2004) found that 99% of sample companies disclosed financial information on their websites. Bollen et al. (2006) found that 100% of companies surveyed in Australia, Belgium, France, the Netherlands, South Africa and the UK disclosed financial information on their websites. About 70% of companies in Kuwait disclose financial information (Al-Shammari et al. 2007) on their websites. This study indicated that, although there are now relatively large numbers of companies disclosing financial information on their websites, the number is smaller than in developed countries.

Table 6.3 Descriptive Statistics for Categorical variables

Dependent Variables	Number (N=284)	Percentage of sample (%)
ENGWEB	207	73
FWEB	206	72.9
Independent Variables		
CEODUALITY	56	19.7
INDUSTRY	40	14.1
BIG4	61	21.5

This study found that 56 (19.7%) of companies' CEO and the chairman positions occupied by one person, This figure is relatively low compared to Kelton and Yang (2008), who found that 59% of CEOs in their sample companies were also the chair of the board of directors. About 40 (14%) were considered to fall under the high-technology industry category. Only 61 companies (approximately 22%) were audited by the Big-4 in this study. Xiao et al. (2004) found that 17.2% companies were audited by the Big-5 in their study. On the other hand, Kelton and Yang (2008) suggested that 97% of the sample companies had a Big-4 auditor in the US in 2003.

6.2.3.2 Descriptive Statistics for Dependent Variables

Table 6.4 shows that the means of 104 disclosure scores, 67 content items, 15 corporate governance items, 11 social responsibility items, 10 timeliness items, 14 presentation items and 13 usability items are 0.53, 0.54, 0.52, 0.63, 0.56, 0.51, and 0.46 respectively. The mean total score is therefore 0.53 (range 0.07 to 0.95) and the median score is 0.61 of a total disclosure score. Compared to Chou et al (2008), the mean score for all items (44) across the 1057 companies in the disclosure index was 0.28 (range: 0.00 to 0.75). The mean scores for the 15 corporate governance items was 0.52 in this study, compared to Chou et al (2008), the mean sore for 10 corporate governance items was 0.41 respectively. This therefore shows that although the sample companies included 135 of the smallest companies, the information disclosed appears to have improved.

The skewness values of TOTALSCORE, CONTENT, CG, TIMELINESS, and PRESENTATION were -0.37, -0.40, -0.24, -0.30 and -0.27 respectively. Positive skewness values indicate a positive skew, whilst scores clustered to the left indicate low values. The negative skewness values indicate a clustering of scores at the high end, whilst a negative value indicates that the score is piled up on the right of the distribution. In this study, the skewness values of TOTALSCORE, CONTENT, CG, TIMELINESS, and PRESENTATION were negative, which indicate that the scores for these items accumulated on the right of the distribution. On the other hand, the skewness values of SOCIAL and USABILITY are positive, which indicates that the scores accumulated on the left of the distribution.

The kurtosis values indicate TOTALSCORE, CONTENT, CG, TIMELINESS, PRESENTATION and USABILITY were -1.30, -1.38, -1.28, -1.13, -1.25, -0.72 and

-0.43. Positive kurtoses indicate that distribution is rather peaked; kurtosis values below 0 indicate that a distribution is relatively flat, which indicates a heavy-tailed or a peaked distribution (Fields, 2009). In this study, the kurtoses of all variables were negative which indicates that the distribution was relatively flat. With reasonably large samples, skewness will not "make a substantive difference in analysis" (Tabachnick and Fidell, 2001, p.75). Kurtosis may result in an underestimate of the variance, but the risk is also reduced with a large sample (Tabachnick and Fidell, 2001, p.75).

6.2.3.3 Descriptive Statistics for Independent Variables

Descriptive Statistics show that the largest company had a market capitalisation of 1.85E+12(RMB¥1.85 Billion). The minimum company market capitalisation was 3.65E+08(RMB¥36.5 Million), and the average was 5.48E+10(RMB¥54.8 thousand million). The variables of size (named LNSIZE) were logarithmically transformed to handle situations in which a non-linear relationship exists between the independent and dependent variables. Using the logarithm of one or more variables rather than the un-logged form makes the effective relationship non-linear while still preserving the linear model. Logarithmic transformations are also a convenient means of transforming a highly skewed variable into one that is closer to normal.

Descriptive Statistics show that the range of STASHARE was 82.66%, the minimum percentage 0%, the mean of percentage 10.30% and the median percentage 0%. The range of LEGSHARE was 100%, the minimum percentage 0%, the mean percentage 8.066% and the median percentage 0%, which is slightly smaller than STASHARE. For FSHARE, the range was 96.16%, the minimum percentage 0%, the mean percentage 5.53% and the median percentage of FSHARE was 0%. All the independent variables have positive skewness except LEVERAGE. Positive skewness values indicate positive skew, with scores clustered to the left having low values. All the independent variables had positive kurtosis with the exception LEVERAGE, which indicates that distribution is rather peaked

Table 6.4 Descriptive Statistics for Dependent Variables

	N	Mean	Median	Std. Deviation	Variance	Skewness	Kurtosis	Range	Minimum	Maximum
TOTALSCORE	284	0.53	0.61	0.25	0.06	-0.37	-1.30	0.88	0.07	0.95
CONTENT	284	0.54	0.64	0.29	0.08	-0.40	-1.38	0.92	0.03	0.96
CG	284	0.52	0.60	0.31	0.10	-0.24	-1.28	1.00	0.00	1.00
SOCIAL	284	0.63	0.64	0.25	0.06	0.04	-1.13	0.91	0.09	1.00
TIMELINESS	284	0.56	0.60	0.26	0.07	-0.30	-1.25	0.90	0.10	1.00
PRESENTATION	284	0.51	0.57	0.21	0.04	-0.27	-0.72	0.93	0.07	1.00
USABILITY	284	0.46	0.46	0.19	0.04	0.31	-0.43	1.00	0.00	1.00

Note: All the variables are defined in Table 5.3.

6.2.4 Descriptive Statistics of Dependent Variables for comparison between bigger companies and smaller companies

Table 6.6 compares the 149 bigger and 135 smaller companies in the sample, which provides a clear picture of the differences in independent variables between the two groups. The highest total score was 0.95 for the bigger companies and 0.75 for the smaller. The lowest total score for the bigger companies was 0.13 and the lowest score for the smaller companies was 0.07. The mean score for the bigger companies was 0.663 compared to 0.388 for the smaller companies, and the median of the IFR score for the bigger companies was 0.726 compared to 0.373 for the smaller companies. These results indicate that bigger companies have better IFR scores than smaller companies. The skewness value for the bigger companies was -1.25; whereas, the skewness value for smaller companies was 0.186. This indicated that the scores for total IFR items for the bigger companies were accumulated on the right side of the distribution, and those for the smaller companies were on the opposite side. The Kurtosis value found for the bigger companies was 0.664 and for the smaller companies it was -1.578. A positive kurtosis value indicates that the distribution of IFR scores for bigger companies was relatively flat; whereas, on the other hand, the distribution of IFR scores for the smaller companies was rather peaked.

Table 6.5 Descriptive Statistics for Independent Variables

	N	Mean	Median	Std. Deviation	Variance	Skewness	Kurtosis	Range	Minimum	Maximum
SIZE	284	5.48E+10	2.98E+10	1.51E+11	2.28E+22	8.131	82.071	1.85E+12	3.65E+08	1.85E+12
LNSIZE	284	23.1795	24.1185	1.88476	3.552	0.188	-1.395	8.53	19.71	28.25
ROA	284	5.9935	4.6826	6.30425	39.744	0.814	2.471	51.37	-18.8	32.56
LEVERAGE	284	0.5116	0.5181	0.23541	0.055	-0.111	-0.518	1.08	0.01	1.1
STASHARE	284	10.3012	0.00	21.41064	458.416	1.961	2.417	82.66	0.00	82.66
LEGSHARE	284	8.066	0.00	19.62784	385.252	3.065	9.103	100	0.00	100
FSHARE	284	5.5307	0.00	12.96065	167.979	2.863	10.428	96.16	0.00	96.16
BOARDSIZE	284	12.72	12	4.602	21.178	1.054	0.778	23	5	28
INDEPDIR	284	36.1239	33.33	8.82539	77.887	0.943	1.958	63.33	16.67	80

Note: All the variables are defined in Table 5.3.

Table 6.6 Descriptive Statistics of dependent Variables for comparison between bigger companies and smaller companies

	N	Mean	Median	Std. Deviation	Variance	Skewness	Kurtosis	Range	Minimum	Maximum
TOTALSCOREA	149	0.663	0.726	0.206	0.042	-1.25	0.664	0.83	0.13	0.95
TOTALSCOREB	135	0.388	0.373	0.214	0.046	0.186	-1.578	0.69	0.07	0.75
CONTENTA	149	0.681	0.761	0.237	0.056	-1.338	0.696	0.88	0.07	0.96
CONTENTB	135	0.381	0.349	0.252	0.063	0.24	-1.574	0.79	0.03	0.82
CGA	149	0.662	0.733	0.252	0.064	-0.688	-0.457	0.93	0.07	1.00
CGB	135	0.354	0.267	0.296	0.088	0.341	-1.35	0.93	0.00	0.93
SOCALA	149	0.765	0.818	0.244	0.059	-0.772	-0.601	0.91	0.09	1.00
SOCIALB	135	0.486	0.455	0.172	0.03	0.226	0.284	0.91	0.09	1.00
TIMELINESSA	149	0.684	0.700	0.215	0.046	-0.971	0.245	0.90	0.10	1.00
TIMELINESSB	135	0.417	0.400	0.228	0.052	0.227	-1.521	0.70	0.10	0.80
PRESENTATIONA	149	0.619	0.643	0.166	0.027	-0.52	0.533	0.86	0.14	1.00
PRESENTATIONB	135	0.394	0.357	0.186	0.035	0.047	-1.274	0.71	0.07	0.79
USABILITYA	149	0.548	0.539	0.188	0.035	-0.19	-0.257	1.00	0.00	1.00
USABILITYB	135	0.366	0.385	0.133	0.018	0.294	-0.384	0.62	0.08	0.69

Notes: A indicates the scores for 149 bigger companies, B indicates the scores for 135 smaller companies.

6.3 Univariate analysis

Both Pearson's product moment correlation as a parametric test and Spearman's rank order correlation, as a non-parametric test, were run to measure the relationship between all the components of IFR and independent variables. The Pearson correlation coefficient is the most widely used measure of correlation between two variables. Pearson's correlation coefficient is a measure of the strength of the linear relationship between two normally distributed variables. Spearman's rank correlation coefficient is a nonparametric (distribution-free) rank statistic proposed as a measure of the strength of the association between two variables. It is a measure of a monotone association that is used when the distribution of data makes Pearson's correlation coefficient undesirable or misleading. Unlike Pearson's product-moment correlation coefficient, it does not require the assumption that the relationship between the variables is linear, nor does it require the variables to be measured on interval scales; it can be used for variables measured at the ordinal level (Hauke & Kossowski, 2011). As two different types of variables were used in this study: interval/ratio scale and ordinal scale data, it was useful to use both Pearson's product correlation and Spearman's rank order correlation test to measure the relationship between all the components of IFR and independent variables. The results are shown below:

6.3.1 Pearson correlations

Several significant correlations were observed among dependent and independent variables, as shown in Table 6.7. These suggest the potential for quite a few of the hypotheses to be supported. SIZE (log-transformed measurement of size of capitalisation) has significant correlations with TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION and USABILITY. LN_SIZE was strongly positively associated with all the disclosure variables, which supports H1. LEVERAGE was significantly related with TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION and USABILITY, which supports H3. INDUSTRY is significantly related with TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION, and USABILITY. BIG was significantly related with TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION, and USABILITY, which means that companies that are being audited by Big-4 auditors and companies in the high-technology industry tend to have a higher disclosure score index, supporting hypotheses H5 and H6. Both BOARDSIZE and INDEPDIR are significantly related to TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION, and USABILITY, supporting hypotheses H10 and

H11. FSHARE is significantly related to all disclosure variables, which supports hypothesis H8. There were significant correlations between STASHRE, PRESENTATION and USABILITY, but not with TOTALSCORE, CONTENT or TIMELINESS. LEGSHARE is significantly related to TOTALSCORE, CONTENT, TIMELINESS and PRESENTATION, but not with USABILITY. Of the test variables, ROA and CEODUALITY were not found to significantly correlate with any of the disclosure dependent variables, namely TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION, and USABILITY. This does not support hypotheses H2, H9. ENGWEB (an indicator of having an English-language version of the website) was associated with SIZE, BIG4 and FSHARE.

6.3.2 Spearman's rho correlations

There were a number of significant correlations between the dependent and independent variables, as shown in Table 6.8. Similarly, SIZE (log-transformed measurement of size of capitalisation) is significantly related to TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION, and USABILITY, suggesting hypothesis H1. LEVERAGE, IDUSTRY, BIG4, STASHARE, FSHARE, BOARDSIZE, INDEPDIR were all significantly related to TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION and USABILITY, which is supports H3, H4, H5, H6, H8, H10 and H11. LEGSHARE only has a weak relationship with TIMELINESS. In view of the results of the Pearson correlations, ROA and CEODUALITY were not found to significantly correlate with any of the disclosure dependent variables (TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION, and USABILITY). This does not tend to support hypotheses H2 or H9. ENGWEB (an indicator of having an English-language version of the website) was associated with SIZE, LEVERAGE, BIG4 and FSHARE.

The differences results between the Pearson correlation test and Spearman's test are: 1) there are significant correlations between STASHRE and PRESENTATION and USABILITY, but not TOTALSCORE, CONTENT, TIMELINESS in the Pearson correlation test. However, there was a significant relationship between STASHARE and TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION and USABILITY in the Spearman test. 2) For LEGSHARE, LEVERAGE is significantly related with TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION and USABILITY in the Pearson correlation test, whilst LEGSHARE only has a weak relationship with TIMELINESS in Spearman's test.

Table 6.7 Pearson Correlations Matrix of Independent and dependent variables

	TOTAL SCORE	CONTENT	TIMELINESS	PRESENTATION	USABILITY	ENG WEB	LN SIZE	ROA	LEVERAGE	INDUSTRY	BIG4	STASHARE	LEGSHARE	FSHARE	CEODUALITY	BOARDSIZE	INDEPDIR
TOTALSCORE	1																
CONTENT	.993**	1															
TIMELINESS	.928**	.910**	1														
PRESENTATION	.895**	.859**	.804**	1													
USABILITY	.724**	.658**	.648**	.670**	1												
ENGWEB	.244**	.208**	.233**	.316**	.316**	1											
LNSIZE	.608**	.577**	.572**	.592**	.579**	.213**	1										
ROA	0.074	0.086	0.065	0.055	-0.025	0.002	.296**	1									
LEVERAGE	.248**	.224**	.238**	.249**	.309**	0.112	.383**	-.404**	1								
INDUSTRY	.289**	.277**	.245**	.275**	.291**	0.036	.232**	-.136*	.222**	1							
BIG4	.473**	.450**	.430**	.457**	.466**	.203**	.561**	-0.038	.346**	.190**	1						
STASHARE	0.106	0.087	0.076	.203**	.114*	-0.018	.352**	0.082	0.036	-0.058	.146*	1					
LEGSHARE	.131*	-.126*	-.140*	-.150*	-0.069	0.019	-0.115	.227**	-.131*	-0.081	-0.061	-0.093	1				
FSHARE	.301**	.284**	.316**	.276**	.287**	.159**	.271**	-0.098	.298**	0.113	.463**	0.002	-.140*	1			
CEODUALITY	-0.013	-0.015	-0.024	-0.016	0.018	-0.103	-.163**	-0.027	.209**	-0.034	0.065	0.057	-.120*	-0.002	1		
BOARDSIZE	.225**	.221**	.183**	.233**	.176**	-0.012	.345**	-0.112	.451**	.283**	.262**	0.064	-.151*	.263**	-.141*	1	
INDEPDIR	.198**	.186**	.212**	.194**	.182**	0.106	.147*	0.038	-0.033	0.000	.154**	.118*	-0.009	0	0.018	-.233**	1

** Significant at the 0.01 level * Significant at the 0.05 level

Table 6.8 Spearman' rho Correlations Matrix of Independent and dependent variables

	TOTALSCORE	CONTENT	TIMELINESS	PRESENTATION	USABILITY	ENGWEB	LNSIZE	ROA	LEVERAGE	INDUSTRY	BIG4	STASHARE	LEGSHARE	FSHARE	CEODUALITY	BOARDSIZE	INDEPDIR
TOTALSCORE	1																
CONTENT	.986**	1															
TIMELINESS	.908**	.881**	1														
PRESENTATION	.856**	.807**	.757**	1													
USABILITY	.762**	.684**	.644**	.673**	1												
ENGWEB	.270**	.229**	.236**	.331**	.320**	1											
LNSIZE	.648**	.623**	.574**	.569**	.576**	.183**	1										
ROA	0.095	0.103	0.077	0.076	0.055	0.050	.220**	1									
LEVERAGE	.292**	.263**	.277**	.273**	.282**	.121*	.349**	-.425**	1								
INDUSTRY	.298**	.290**	.239**	.267**	.283**	0.036	.239**	-.186**	.207**	1							
BIG4	.517**	.504**	.452**	.467**	.436**	.203**	.538**	-0.044	.321**	.190**	1						
STASHARE	.165**	.153**	.122*	.232**	.149**	0.003	.337**	0.091	0.035	-0.061	0.112	1					
LEGSHARE	-0.098	-0.097	-.140*	-0.091	-0.015	-0.001	-0.126*	.190**	-.133*	-0.002	-0.104	0.049	1				
FSHARE	.416**	.396**	.392**	.338**	.355**	.167**	.369**	-0.095	.296**	0.087	.549**	.121*	-0.146*	1			
CEODUALITY	0.000	0.001	-0.021	-0.003	0.011	-0.103	0.142*	-0.065	.199**	-0.034	0.065	0.025	-0.141*	0.014	1		
BOARDSIZE	.223**	.216**	.190**	.217**	.162**	-0.049	.334**	-0.140*	.422**	.232**	.234**	0.105	-0.132*	.244**	.175**	1	
INDEPDIR	.196**	.181**	.199**	.182**	.170**	0.095	.149*	0.036	-0.033	0.024	.148*	0.07	-0.047	0.025	-0.003	-.263**	1

** Significant at the 0.01 level * Significant at the 0.05 level

6.4 Multivariate regression analysis

Multivariate analysis is a common technique that extends the univariate analyses by modelling the relationship between a dependent variable and other independent variables. In this chapter, three multivariate analyses were used to examine the association between the extent of IFR components and their explanatory variables. These analyses are: partly transformed data regression model, rank scores regression model and the normal scores regression model. The OLS regression equation used is as follows:

$$Y=\beta0+\beta1X1+\beta2X2+\beta3X3+\beta4X4+\beta5X5+\beta6X6+\beta7X7+\beta8X8+\beta9X9+\beta10X10+\beta11X1+\varepsilon$$

Where Y=the total scores (TOTALSCORE), the content scores (CONTENT), the corporate governance score (CG), the social responsibility score (SOCIAL), the timeliness scores (TIMELINESS), the presentation scores (PRESENTATION), the usability scores (USABILITY); X1=firm size as measured by market capitalisation (LNSIZE), X2= Profitability (ROA), X3 = leverage (LEVERAGE), X4 = companies in high technology industry (INDUSTRY), X5 = companies audited by a Big-4 auditing firm (BIG4), X6 = share held by state-owned corporations as proportion of total shares (STASHARE), X7 = share held by legal persons as proportions of total shares (LEGSHARE), X8 = share held by foreign shareholders (FSHARE), X9 = 1 for CEO is also the board of directors (CEODUALITY), X10 = the number of board directors (BOARDSIZE), X11 = independent directors as a proportion of total directors (INDEPDIR).

The Logit regression equation used was as follows:

$$Y=\beta0+\beta1X1+\beta2X2+\beta3X3+\beta4X4+\beta5X5+\beta6X6+\beta7X7+\beta8X8+\beta9X9+\beta10X10+\beta11X11+\varepsilon$$

Where Y= ENGWEB (whether or not the company has an English-language website), FWEB (the inclusion of financial information on the company's website); X1 = firm size as measured by market capitalisation (LNSIZE), X2 = profitability (ROA), X3 = leverage (LEVERAGE), X4= companies in high technology industry (INDUSTRY), X5 = companies audited by a Big-4 auditing firm (BIG4), X6 = share held by state-owned

corporations as a proportion of total shares (STASHARE), X7 = share held by legal persons as proportions of total shares (LEGSHARE), X8 = share held by foreign shareholders (FSHARE), X9 = 1 for CEO who is also on chair of board directors (CEODUALITY), X10 = the number of board directors (BOARDSIZE), X11 = independent directors as a proportion of total directors(INDEPDIR).

6.4.1 Data examination and transformation

The regression results were performed to test the hypotheses. The models used five scores for disclosure on the Internet (TOTALSCORE, CONTENT, CG, SOCIAL, TIMELINESS, PRESENTATION, and USABILITY). Two logit models were run to test whether having an English-language version of a company's website can be explained by any of the explanatory variables, and whether having financial information on their websites can be explained by any of the explanatory variables.

Two major assumptions that are related to the current study were checked before running the seven models. These assumptions were: sample size, normality, linearity, homoscedasticity and multicollinearity (Field, 2009). If any of the latter assumptions are violated, the results of the OLS model may be misleading for this study and therefore need to be treated appropriately.

6.4.1.1 Sample size

Sample size is a very important factor for generalisability. A number of different guidelines have been suggested concerning the number of cases required for multiple regressions. Stevens (1996, p72) recommends that, "for social research, about 15 per cent subjects per predictor are needed for a reliable equation". Tabachnick and Fidell (2001, p117) give a formula for calculating sample size requirements, taking into account the number of independent variables used: $N > 50 + 8*m$ (where m = number of independent variables). In this research, 284 were used. The equation $284 > 50+8*11$ indicates that sample size was not a problem.

6.4.1.2 Normality of residuals

The mean of IFR index total score is 54.62 and the range is from 6 to 98, the IFR index is not normally distributed as indicated by standard tests on skewness and kurtosis. The Kolmogorov-Smirnov tests were also used to test the normality assumption for the testing of the hypothesis. The results indicated that none of the dependent scores were

normally distributed, thus there is the need to transform the data before the regression test. Cooke (1998) argued that the normal scores approach may be appropriate in accounting for disclosure studies in this context. Accordingly, three types of regression model - named partly transformed regression analysis, rank regression analysis and the normal score approach - were used to achieve reliable results.

6.4.1.3 Linearity

Linearity refers to "the degree to which the change in the dependent variable is related to the change in the independent variables" (Saunders et al., 2007, P. 462). Checking linearity can be done by plotting the residuals against the independent variables. It may be argued that linearity is violated when a funnel pattern is observed. In addition, linearity can be checked by plotting each independent variable against the dependent variable and depicting the regression line that explains the relationship between the two variables. Most of the independent variables indicate a non-linearity pattern with the dependent variables. This result of non-linearity is in line with the majority of prior disclosure studies (Cooke, 1998).

6.4.1.4 Homoscedasticity of residuals

Homoscedasticity refers to the equality of variance values for dependent and independent variables (Saunders et al., 2007; Field, 2009). Homoscedasticity can be checked by scatter-plotting the standardised residuals against standardised predicted variables of the dependent variable (Field, 2009). Since the variance of the residuals about predicted dependent variables scores should be the same for all predicted variables in this study, the test indicates that the current data have no heteroscedasticity problem.

6.4.1.5 Multicollinearity diagnostics

Multicollinearity refers to the strong linear relationship among the independent variables which may affect the precision of the variables' coefficient in the regression model (Gujarati, 2003). There are two common means of checking multicollinearity. The first is the correlation matrix, which indicates whether or not there is any correlation between the independent variables. The second way involves using variance inflation factors (VIFs) with tolerance values, which are performed when running the OLS model. The result also shows that most independent variables are not significantly associated. In order to further assess this, all explanatory variables were regressed

against TOTALSCORE, computing tolerance and variance inflation factors (VIF). All explanatory variables had high tolerance scores (ranging from .352 to .919) and low VIFs (maximum 2.841). This suggests that multi-collinearity is not a problem in these regressions.

6.4.1.6 Endogeneity problems

Himmelberg (2002) argued that corporate governance is determined exogenously by environmental factors such as legal efficiency, regulation and the rules relating to the market for corporate control. Coles et al. (2008) argue that firm-level governance, therefore, must be treated as endogenous. A large number of studies recognise that models containing corporate governance ownership variables suffer from endogeneity (Weir et al., 2002 and Coles et al., 2005). In an analysis by McKnight and Weir (2008), all board structure, ownership and CEO characteristics are treated as endogenous. Goh et al. (2011) examine how the independence of a firm's board affects its information environment; they consider board independence as endogenous variables.

In order to mitigate the econometric problems caused by endogeneity, it has become common in accounting research to implement some type of instrumental variables (IV) estimation procedure. The ideal instrument is the result of a "natural experiment," an event that changes the endogenous regressors, but leaves the other aspects of the economic system unaffected. However, it is very hard to disentangle the effect of the specific event from all other events occurring at the same time (Larcker and Rusticus, 2010). Goh et al. (2011) used board connections (defined as the proportion of directors who also sit on at least one other firm's board that has a majority of independent directors) as their instrument of board independence. In this study, a natural experimental condition was created to address the endogeneity issue of board independence. A dummy variable indicates that one-third of the independent directors on board are the instrument used to capture the increase in board independence.

The Hausman test (Hausman, 1978) has been proposed as a test for model specification that looks for a statistically significant difference between an estimator that is different under the null hypothesis and an estimator that is consistent under the alternative hypothesis. In this study, the Hausman test examined the endogeneity issue of board independence. It provides a formal test of whether the IV estimator differs significantly from the OLS estimator. Using the assumption of the appropriateness of the

instruments, this test can be used to determine the existence of an endogeneity problem and thus the appropriateness of using OLS. This test statistic can also easily be computed by including both the observed *x* and the predicted *x* variable from the first stage regression into an OLS version of the second stage regression. If the coefficient on the predicted *x* is significant, the Hausman test rejects the null of the no endogeneity problem.

Appendix 3 presents the results of the Hausman tests, which show that the coefficient of the residual was not significantly different from zero. This indicates that no endogeneity problems exist in the current model.

6.4.1.7 Data transformation

One of the commonest ways to overcome violation of the multiple regression assumptions is to transform the data. Cooke (1998) recommends the transformation of data when the assumptions in a regression analysis are violated. Moreover, Field (2009) mentions that transforming data will not alter the relationship between different variables; rather it will change the unit of measurement (a scale on which the variable is measured). Some researchers indicate the possibility of only transforming independent variables (Fox, 2002; Ruppert et al., 2003). Box and Tidwell (1962) and Fox (2002) suggested transformation of the independent variables in regression by estimating maximum-likelihood. Cooke (1998) suggested the dependent variables can also be legitimately transformed, for use in regression analysis. Consequently, the current study applies partial transformation (only transform firm size), rank transformation of independent variables and dependent variables, and normal scores approach.

Rank score transformation

Iman and Conover (1979) stated that in rank transformation, data are normally ranked in order; rank one is assigned to the smallest observation and rank N for the largest one. In this research, the method used was: N/n+1

where N = the ranked scores, n = Number of companies.

Cooke (1998) was the first to apply this approach in disclosure study. Ranks are substituted by scores on the normal distribution. The normal score transformation approach can therefore be used as an extension of the rank approach. Cooke (1998)

suggested that the normal score transformation approach can be used as an extension of the rank approach for the following reasons:

1) It eliminates some of the weakness of the rank transformation approach and retains the advantage.
2) Normally distributed dependent variables have the same property for the distribution of the errors.
3) Significance levels can now be determined; they are meaningful and have greater power than when using ranks.
4) The F and t-tests are meaningful.
5) The power of the F and t-tests may be used.
6) The regression coefficients derived using normal scores are meaningful.

Al-Htaybat (2005), Marston and Polei (2004) and Haniffa and Cooke (2002) adopted the normal score transformation approach in their studies. The method used in this study is referred to as the van der Waerden approach. Following Cheng et al. (1992), Lang and Lundholm (1993, 1996), and Wallace and Naser (1995), the dependent variables were transformed into rank scores and normal scores before running the regression analysis. When supporting/rejecting the hypotheses and various disclosure themes, the regression results for transformed (normal score transformation approaches) are used in this study, due to the advantages of the normal score transformation, as discussed above.

6.4.2 Results of OLS regression analysis

Based on the research design, three types of regression model were tested: partially transformed data, ranked scores and normal scores (van der Waerden's approach). The dependent variables are TOTALSCORE, CONTENT, CG, SOCIAL, TIMELINESS, PRESENTATION, and USABILITY.Tables 6.9 shows that the adjusted R^2 values are 45.9%, 51% and 52.3% for the TOTALSCORE model, which means that 45.9%, 51% and 52.3% of the variation in the IFR TOTALSCORE is explained by the explanatory variables of these model. In line with Marston and Polei (2004), the results show that the explanatory power of the models (as measured by adjusted R^2) could be significantly increased through the transformation of the data. All models are significant at $p<0.000$; F values are 20.96, 25.75 and 27.08. The values of Durbin-Watson are 1.699, 1.777 and 1.739, all less than 2, which indicates no autocorrelation between the variables.

Hypothesis H1 predicts that the total score of disclosure of information on a company's website is positively related to its size. This is consistent with the results of bivariate analysis and is largely supported by the significant coefficients of LNSIZE in three regressions. The p values in the three regression models are all the same value (p=0.00), which is significant at the 0.01 level. LNSIZE positively affected the total score of information disclosed. These results indicate that a company's size of capitalisation in 2010 increased the amount of information it showed on its website. The result is consistent with Marston and Leow, 1998; Ashbaugh et al., 1999; Craven and Marston, 1999; Pirchegger and Wagenhofer, 1999; Ettredge et al. 2002; Debrecency et al., 2002; Oyelere et al., 2003; Marston and Polei, 2004; Xiao et al., 2004; He and Zhang, 2007, Abdelsalam et al., 2007 and Chou, 2008. However, it contradicts findings from several other studies, such as Khanna et al. (2004), who found no statistically significant relationship for European multinationals listed on the New York Stock Exchange. This result suggests that for the bigger and smaller sized listed companies in China, size is an important factor for voluntary disclosure online. This finding supports agency theory, signalling theory and cost and benefit analysis.

Agency theory suggests that larger firms exhibit higher agency costs due to the information asymmetry between market participants. In order to reduce information asymmetry, larger companies supplement traditional financial reporting mechanisms with web-based ones. The bigger the companies, the more information they disclosed on their websites, which was in line with the agency theory. Signalling theory (Kelly, 1994) suggests that larger firms may have a greater incentive to signal their quality by means of improved disclosure, which is happening in bigger companies in China. It may also imply that because large companies have the resources for more complex management information systems and databases for management control purposes,

Table 6.9 Regression Models of Total Score for 284 Companies

	Partially transformed Score Method		Rank Score Regression Method		Normal Score Regression Method	
R Square	0.459		0.532		0.546	
Adjusted R Square	0.437		0.513		0.527	
Std. Error of the Estimate	0.188		28.118		0.676	
F Change	20.958		25.745		29.68	
Sig. F Change	0.00		0.00		0.00	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	-1.359	-6.595	-181.512	-8.208	-7.939	-10.707
LNSIZE	.078	7.774**	9.521	8.837**	.337	9.321**
ROA	-.004	-1.461	-.447	-1.671	-.019	-2.072
LEVERAGE	-.088	-1.287	-5.878	-.801	-.327	-1.327
INDUSTRY	.082	2.304*	8.746	2.300*	.306	2.397*
BIG4	.066	1.795	8.079	2.040*	.317	2.383*
STASHARE	-.001	-2.280*	-.166	-2.674*	-.006	-2.718*
LEGSHARE	-.001	-.967	-.074	-1.125	-.002	-.838
FSHARE	.002	1.650*	.254	2.349*	.009	2.564*
CEODUALITY	.063	2.140*	7.082	2.254*	.229	2.175*
BOARDSIZE	.000	.140	-.051	-.160	-.005	-.495
INDEPDIR	.003	2.343*	.385	2.633**	.010	1.965*

*Significant at the 5% level (p<0.05) ** Significant at the 1% level (p<0.01)

disclosure costs may be generally lower than for larger companies. They can also obtain capital more easily and cheaply through more extensive disclosure. Large companies are therefore accruing benefits from setting up websites and providing financial information on websites in China.

The second hypothesis, H2, predicts that the total score of information on a company's website is positively related to its profitability. In contrast to the results of bivariate analysis, it was not supported by the results of Rank regression and Normal Score regression model. It may be concluded that hypothesis H2 is not supported. This is consistent with the findings of some researchers (Ashbaugh et al., 1999; Ettredge et al., 2002; Oylere et al., 2002; Marston, 2004; Xiao et al., 2004; Abdelsalam et al., 2004, He and Zhang, 2007), but not Pirchegger and Wagenhofer (1999). It might support the proprietary costs theory. Higher profitability firms are considered to be under the influence of competitive costs, which tend to increase when profitability increases; consequently, they disclosed less voluntary information on their website to reduce the chances that rival companies could take the company's market place in China. On the other hand, this may be a reflection of the current lack of emphasis on performance-based management incentives in Chinese business enterprises (Xu and Wang, 1999).

H3 states that the total score of information companies disclose on their websites is positively associated with leverage. In contrast to the results of bivariate analysis, the results of the three regression models indicated non-significant coefficients. Furthermore, it is noteworthy that the associations, if any, could be negative. The result is consistent with studies by Debrecenty et al. (2002), Oyelere et al. (2003) and Chou (2008), but contradicts that of Xiao et al. (2004). The bigger the proportion of debt in the companies' capital structure, the less information the companies are willing to disclose on their websites

H4 predicts that the total score of disclosure of information on a company's website is positively related to high-technology firms. In line with the results of bivariate analysis, this is also supported by the significant coefficients of INDUSTRY in three regression models. P values in the three models were 0.013, 0.01, and 0.006. INDUSTRY was positively affected by the total score of information disclosed. Companies in the high technology industry are therefore more inclined to divulge information via their

websites. Other studies have found a link between industry and voluntary disclosure (Ettredge et al., 2001; Oylere et al., 2003; Bonsón and Escobar, 2004; Xiao et al., 2004; He and Zhang, 2007), whereas others (Craven and Marston, 1999; Marston, 2003; Abdelsalam et al., 2004) have not. This result meets the expectations of signalling theory and political cost theory. It suggests that for the biggest and smallest listed companies in China, belonging to a high technology industry is an important factor in determining what the company discloses on its website; this includes companies from the computer, electronics, pharmaceutical and telecommunications industries. This study suggests that high technology companies in China make use of the available technology for building up their websites as a source of information for investors. It may also be concluded that these companies adopt the same disclosure strategy as other corporations in the same industry.

H5 states that the total score of disclosure of information on a company's website is positively related to companies audited by Big-4 auditors. As with the results of bivariate analysis, this is also supported by the significant coefficients of BIG4 in the three regression models. P values in the three models are 0.09, 0.014, and 0.004. BIG4 was positively affected by the total score of information disclosed on their websites. Several studies (Xiao et al., 2004; Abdelsalam et al., 2004; Al-Shammari et al., 2007; Bonsón and Escobar, 2006; He and Zhang, 2007) have found that the amount and presentation of information for investors on a company's website is positively related to the company's use of a Big-4 auditor. This result indicates that for both the biggest and smallest listed companies in China, the use of an auditor from the Big-4 group is an important factor for voluntary disclosure online. This finding is consistent with the expectations of agency theory and signalling theory. Agency theory suggests that auditing helps to alleviate conflicts of interest between managers and shareholders. It reflects the fact that in the Chinese context, large independent auditors such as the Big-4 play a monitoring role, just as they do in developed countries, which leads to increased voluntary disclosure amongst the biggest and smallest companies. As Big-4 auditors are more likely to demand a high level of disclosure information to maintain their reputation, and the choice such auditing firms signals that they accept such demands, they are willing to provide high levels of voluntary disclosure in the Chinese context.

H6 states that the total score for the disclosure of information on a company's website relates negatively to the proportion of state-owned corporation ownership. In line with

the results of bivariate analysis, the results for the three regression models indicate that these variables negatively affect the total scores of disclosed by companies on their websites. H6 was therefore supported. STASHARE had consistently negative coefficients for all three models; the P values for the three models were 0.023, 0.009 and 0.008. This shows the higher the proportion of companies' shares held by state-owned corporations, the less likely they are to disclose additional information on their websites. Agency theory argues that in a diffusion ownership environment, firms will disclose more information to reduce agency costs and information asymmetry. State ownership was of negative significant in this study, suggesting that state-owned firms are suffering from greater information asymmetry and agency problems.

This finding was in line with Xiao et al. (2004), who argued that the negative effects of state ownership are consistent with the proposition that state owners do not make high demands for voluntary financial disclosures, as they tend not to have company profitability as their primary concern and often have privileged access to private information. This is a reflection of either the current lack of emphasis by state shareholders on efficiency and profitability or their direct access to corporate insider information. In addition, Bai et al. (2004) argue that firms with higher state ownership principally aim to maintain employment and social stability (public objectives) rather than profit maximisation, which engenders agency conflicts between the state and minority shareholders.

Hypothesis H7 predicts that the total score of disclosure of information on a company's website is positively related to the proportion of legal person ownership. In line with the results of bivariate analysis, LEGSHARE had no significantly coefficients on all three models, which indicates that the total score of disclosure of information on a company's website is not related to the proportion of legal person ownership. This result contradicts that of Xiao et al. (2004). It appears that for the bigger and smaller listed companies in China, legal personal shareholders did not play a positive role in monitoring management (Xu and Wang, 1999).

Hypothesis H8 states that the total score for the disclosure of information on a company's website is positively related to the proportion of foreign ownership. In line with the results for bivariate analysis, this is also supported by the significant coefficients of FSHARE in the three regression models. P values in the three models

were 0.085, 0.016, and 0.007. FSHARE positively affected the total score for the information disclosed. This is in line with Xiao et al. (2004). Here, it may be concluded that the biggest and smallest Chinese listed companies consider the information needs of foreign investors; this can then be explained by agency theory. Foreign investors in the Chinese stock market are likely to face a higher level of information asymmetry, given the language barrier and lack of access to corporate information, thus foreign investors could exert more effective external monitoring and pressure on management to disclose additional IFR information (Qu et al., 2013). As suggested by agency theory, firms with dual listing status (foreign and domestic) are extremely motivated to disclose supplementary voluntary information (Wang et al., 2008). As a result, managers tend to disclose more IFR information to meet their expectations of shareholders' needs. In addition, firms with foreign ownership can be more politically visible and are also subject to more public scrutiny in China. These findings imply the adoption of IFR to satisfy the public by improving transparency, and may therefore potentially reduce the political cost (Liu and Eddie, 2007).

Foreign investors in the Chinese stock market are international financial institutions. As equity stakeholders of listed companies, foreign investors behave as effective external agents (Qu et al., 2013). Having foreign shareholders requires Chinese companies to offer transparent disclosures, that are suited to foreign investors, to raise and retain foreign funds (Wang et al., 2008). As the ownership of a company is dispersed between an increasing numbers of investors, the Internet has become an increasingly effective and efficient way to communicate with these shareholders. Thus, it is anticipated that foreign ownership would have a positive impact on IFR.

Hypothesis H9 predicts that the total score of disclosure of information on a company's website is negatively related to CEODUALITY. In contrast to the original hypothesis, which is inconsistent with the results of bivariate analysis, significant coefficients of CEODUALITY in three regressions models have been found. The P values in the three models are 0.035, 0.028 and 0.034. Several studies have found a negative relationship between IFR and CEO duality (Abdelsalam et al, 2007; Abdelsalam and Street, 2007; Abdelsalam and EI-Masry, 2008; Gandía, 2008; Kelton and Yong, 2008). However, the same results were not obtained in China. That indicates that the biggest and smallest Chinese listed companies have a CEO and the chairman positions occupied by one person disclose more information on their websites. This meets the expectations of the

stewardship theory. Agency theory suggests that CEO duality is bad for performance as it compromises monitoring and control of the CEO. Stewardship theory, in contrast, argues that CEO duality may be good for performance due to the unity of command it presents. Stewardship theory maintains that CEO duality creates a necessary and important unity of command at the top of the organisation (Donaldson and Davis, 1991). CEO duality therefore helps to avoid confusion among managers, employees and other stakeholders as to who is the boss and facilitates timely and more effective decision-making (Finkelstein and D'Aveni, 1994). The firm may otherwise experience conflicts at the top, reduced speed and effectiveness in decision-making and, finally, poor performance (Brickley et al., 1997; Donaldson and Davis, 1991).

Hypothesis H10 states that the total score of disclosure of information on a company's website is positively related to BOARDSIZE. In contrast to the results of bivariate analysis, results of the three regression models indicated non-significant coefficients; H10 was, thus rejected. This is in line with Gandía (2008) but not EI-Masry (2008), who found a positive relationship between IFR and the board size. The results demonstrated that amongst the biggest and smallest Chinese listed companies, BOARDSIZE is not the factor that determined the total score of the voluntary disclosure on their websites.

Finally, Hypothesis H11 predicts that the total score of disclosure of information on a company's website is positively related to the percentage of the independent directors on board. As with the results of bivariate analysis, H11 was also supported by significant coefficients in the three regression models (p values were 0.035, 0.033 and 0.061). This finding is in line a number of studies (Xiao et al., 2004; Abdelsalam et al., 2007; Abdelsalam and EI-Masry, 2008 and Ezat and EI-Masry, 2008). This can be supported by agency theory, which states that having more independent directors on board monitors the directors' performance on the quality of the voluntary disclosure online.

6.4.3 IFR and its components

This section examines the association between the components of IFR, namely content, corporate governance, social responsibility, presentation, timeliness and usability, to identify the determinants of IFR more precisely. Classifying IFR into its main

components adds more depth to the analysis of the findings and provides new directions to explain the relationships between IFR components and their determinants.

6.4.3.1 Total content

Regarding the content scores, three multivariate analyses (partially transformed regression model, rank regression score model and normal score regression model) were used to examine the association between the extent of IFR CONTENT and their explanatory variables. Tables 6.10 shows that the adjusted R^2 for the three models was 49.1%, 49.2% and 49.2% for the content model, which means that 41.7% of the variation in the IFR content is explained by the explanatory variables of this model. All models were significant at $p<0.000$, with F values of 17.67, 23.84 and 23.96. The values of Durbin-Watson were 1.719, 1.819 and 1.805, all less than 2, which indicates that there was no autocorrelation between the variables.

The results of multivariate analysis reveal that company SIZE, INDUSTRY, FSHARE BIG4 and INDEPEIR are positively associated with IFR CONTENT in Normal score regressions. This suggests that of the bigger companies within higher percentage of independent directors, increased the content of disclosed information on their websites. In three of three regressions, FSHARE was significantly related to the content information disclosed on their websites, which indicated that companies that have more foreign shareholders disclosed more content information on their websites.

On the other hand, STASHARE was negatively associated with IFR CONTENT, which means that companies with more state owned share disclosed less CONTENT information on their websites. ROA, LEGSHARE, BOARDSIZE had no significant relationship with IFR CONTENT. The significant positive association between Chinese listed companies and IFR content results is consistent with Xiao et al. (2004), Marston and Polei (2004), Abdel-Salam et al. (2007), Abdel-Salam and Street (2007), and Kelton and Yang (2008). H1.1, H1.3, H1.5 and H1.8, for IFR CONTENT are thus supported.

The findings of IFR content can be explained by many theories depending on the examined explanatory variables. For size, agency theory clarifies that bigger companies disclose more content information to reduce their agency costs. Signalling theory suggests that the bigger companies increase their information to signal the quality of improved disclosure. With regard to industry type, high-technology companies

disclosed more content information on their websites. This may be explained by signalling theory, which states that companies try to adopt the same disclosure strategy as other companies in the same industry. With regard to auditor type, companies audited by Big-4 companies increase the content information disclosed on their websites, which is supported by agency theory and signalling theory. Agency theory argues that larger auditing companies are more likely to be associated with clients that disclosed higher levels of information for the sake of maintaining their own reputation. Signalling theory suggests that companies hire larger auditing companies to signal their high quality of disclosure.

Regarding state-share ownership, the results suggest that companies with more shares held by the state have another channel to distribute information other than voluntary disclosure. It also might indicate that the costs might outweigh the benefits if these type of companies disclose more information on their websites. Companies that held more foreign shares tend to disclose more content information, which may be a result of agency theory that suggests that companies try to reduce information asymmetry between market participants. The reduced costs of disclosing content information online may be another factor. Finally, the higher the percentage of independent directors on board, the more content information the company discloses online. This may be explained by agency theory, which states that the existence of independent directors yields more effective monitoring of board directors, therefore resulting in increased disclosure.

Table 6.10 Regression Models of Total Content for 284 companies

	Partially transformed Score Method		Rank Score Regression Method		Normal Score Regression Method	
R Square	0.417		0.491		0.492	
Adjusted R Square	0.393		0.470		0.472	
Std. Error of the Estimate	0.22		21.04		0.71	
F Change	17.675		23.846		23.966	
Sig. F Change	0.00		0.00		0.00	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	-1.507	-6.162	-166.832	-7.233	-7.400	-9.446
LNSIZE	.084	7.054**	8.925	7.943**	.314	8.229**
ROA	-.003	-1.074	-.337	-1.208	-.014	-1.444
LEVERAGE	-.109	-1.337	-7.422	-.970	-.358	-1.377
INDUSTRY	.091	2.155*	8.866	2.236*	.263	1.952*
BIG4	.077	1.755	9.280	2.246*	.350	2.491*
STASHARE	-.002	-2.389*	-.172	-2.671*	-.006	-2.927*
LEGSHARE	-.001	-1.022	-.086	-1.266	-.003	-1.083
FSHARE	.002	1.438	.229	2.037*	.009	2.243*
CEODUALITY	.069	1.977*	6.518	1.989*	.208	1.866
BOARDSIZE	.001	.370	.011	.032	-.003	-.234
INDEPDIR	.003	2.161*	.347	2.275*	.008	1.636*

*Significant at the 5% level ($p<0.05$)** Significant at the 1% level ($p<0.01$)

6.4.3.2 Factors determining corporate governance disclosure

With regard to corporate governance factors, three multivariate analyses (partially transformed regression model, rank regression score model and normal score regression model) were used to examine the association between the extent of IFR CG and their explanatory variables. Tables 6.11 indicates that the adjusted R^2 for the three models is 36%, 35.7% and 36.8% for CG model, which means that 36.8% of the variation in the IFR corporate governance is explained by the explanatory variables of this model. The explanatory power of corporate governance is less than the overall total score and content score. This means that more factors lead companies to disclose more corporate governance information on their websites, which have not been discovered in this model. All models are significant at $p<0.000$ and have F values of 13.62, 13.70 and 14.38. The values of Durbin-Watson are 1.712, 1.742 and 1.750, all less than 2, which indicate that there is no autocorrelation between the variables.

The results of multivariate analysis reveal that company SIZE and INDUSTRY are positively associated with IFR CG in all three regressions. This suggests that bigger companies within the high-tech industry type disclose more corporate governance information on their websites. As with the results of the content scores analysis, STASHRE was negatively associated with IFR CG, which means that companies with more state owned shares disclosed less IFR CG information on their websites. CEODUALITY was only significant at 0.10 in the un-transformed model, from which it may be concluded that it is not related to the IFR CG variables. ROA, LEVERAGE, BIG-4, LEGSHARE, FSHARE, and BOARDSIZE, INDEPEDIR had no significant relationship with IFR CG. None of the corporate governance factors (CEODUALITY, BOARDSIZE, INDEPEDIR) were related to corporate governance. Neither the CEO-chairman duality, the size of board nor the percentage of independent directors on board explained the levels of corporate governance disclosure of Chinese listed companies. These results are in line with the findings of Kelton and Yang (2008), Gandía (2008) and Li et al. (2008).

The findings concerning IFR corporate governance can be explained by many theories, depending on the chosen explanatory variables. As with most IFR research, size is a key factor when determining higher disclosure levels, which can be explained by agency theory and signalling theory. To reduce agency costs, bigger firms disclose corporate governance information on their websites. In addition, bigger firms are in the public

spotlight more than smaller firms are, and respond to this pressure by increasing IFR disclosure. High technology companies tend to disclose more information to signal their advantage.

Table 6.11 Regression Models of CG for 284 Companies

	Partially transformed Score Method		Rank Regression Method		Normal Score Regression Method	
R Square	0.36		0.357		0.368	
Adjusted R Square	0.33		0.331		0.342	
Std. Error of the Estimate	0.26		23.598		0.77	
F Change	13.625		13.705		14.383	
Sig. F Change	0.00		0.00		0.00	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	-1.576	-5.594	-142.534	-5.510	-6.601	-7.776
LNSIZE	.089	6.465**	8.338	6.617**	.289	6.999**
ROA	-.002	-.595	-.219	-.701	-.008	-.742
LEVERAGE	-.112	-1.198	-8.870	-1.034	-.384	-1.363
INDUSTRY	.112	2.308*	10.145	2.281*	.255	1.745*
BIG4	.060	1.197	5.484	1.184	.193	1.268
STASHARE	-.002	-2.196*	-.162	-2.236*	-.006	-2.436*
LEGSHARE	-.001	-1.206	-.083	-1.088	-.003	-1.091
FSHARE	.002	1.092	.148	1.171	.005	1.272
CEODUALITY	.073	1.812*	5.830	1.586	.183	1.521
BOARDSIZE	.087	.021	-.110	-.292	-.001	-.080
INDEPDIR	.002	1.162	.124	.726	.002	.444

*Significant at the 5% level ($p<0.05$) ** Significant at the 1% level ($p<0.01$)

6.4.3.3 Factors determining the social responsibility score

Three multivariate analyses were used to examine the association between the extent of IFR SOCIAL and their explanatory variables. Tables 6.12 shows that the adjusted R^2 for the three models were 43.1%, 41.2% and 38.9% for the SOCIAL model, which means that 38.9% of the variation in the IFR content is explained by the explanatory variables of this model. It also indicated that many other factors that were not found in this model determine whether companies disclose more social responsibility information. All models were significant at $p<0.000$. The F values were 18.75, 17.35 and 15.77. The values of Durbin-Watson were 2.098, 2.055 and 2.104, all near 2, which indicates no autocorrelation between the variables.

The results of the multivariate analysis reveal that company SIZE, ROA and INDEPDIR are positively associated with IFR SOCIAL in all three regressions. This suggests that bigger companies that are more profitable and have more independent directors on their boards increase the social responsibility of disclosed information on their websites. On the other hand, STASHARE was negatively associated with IFR SOCIAL, which means that companies that have more state-owned shares disclose less social responsibility information on their websites. LEVERAGE, INDUSTRY, BIG4, LEGSHARE, FSHARE, CEODUALITY and BOARDSIZE have no significant relationship with IFR SOCIAL.

The findings of IFR SOCIAL can be explained by many theories, depending on the explanatory variables examined. SIZE is one of the predictors of social responsibility score. It meets the expectations of both agency theory and signalling theory. In order to distinguish themselves from these high-profile events and to build a good corporate image, bigger firms disclose extra social information to enhance their corporate reputation, thereby gaining trust and support from various stakeholders. Bigger companies disclose more social and environmental information. Institutional theory suggests that when the management team perceives a need for their company to adopt certain institutional practices, this may explain the use of social and environmental disclosures to meet the social expectations.

Table 6.12 Regression Models of SOCIAL for 284 Companies

	Partially transformed Score		Rank Regression Method		Normal Score Regression Method	
R Square	0.431		0.412		0.389	
Adjusted R Square	0.408		0.389		0.365	
Std. Error of the Estimate	0.195		22.44		0.74	
F Change	18.75		17.355		15.771	
Sig. F Change	0.00		0.00		0.00	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	-1.342	-6.277	-171.011	-6.952	-6.888	-8.459
LNSIZE	.080	7.660**	9.019	7.527**	.276	6.965**
ROA	.005	2.037*	-.648	2.177	.017	1.755*
LEVERAGE	.083	1.171	7.777	.953	.311	1.153
INDUSTRY	-.028	-.764	-2.708	-.641	-.081	-.578
BIG4	.054	1.409	5.527	1.255	.195	1.338
STASHARE	-.001	-1.301*	-.093	-1.351*	-.003	-1.357*
LEGSHARE	.000	.313	.019	.263	.000	.128
FSHARE	.001	.868	.101	.841	.003	.669
CEODUALITY	.051	1.690	5.784	1.655	.213	1.838
BOARDSIZE	-.002	-.745	-.256	-.717	-.007	-.630
INDEPDIR	.004	2.487*	.376	2.315*	.012	2.318*

*Significant at the 5% level ($p<0.05$) ** Significant at the 1% level ($p<0.01$)

6.4.3.4 Factors determining the timeliness of information

Three multivariate analyses were used to examine the association between the extent of IFR timeliness and their explanatory variables in order to examine the timeliness of information disclosed on the sample companies' websites. Tables 6.13 shows that the adjusted R^2 for the three models was 32.3%, 45.6% and 47.1% for the timeliness model, which means that 47.1% of the variation in the IFR timeliness is explained by the explanatory variables of this model. All models are significant at $p<0.000$; F values were 18.09, 20.75 and 22.05. The values of Durbin-Watson were 1.642, 1.681 and 1.622, all less than 2, which indicates no autocorrelation between the variables.

The results of the multivariate analysis showed that company SIZE, FSHARE, CEODUALITY and INDEPDIR are positively associated with IFR TIMELINESS in all three regressions. This suggests that bigger companies hold more foreign shares. Companies whose CEO also acts as chairman have a bigger percentage of independent directors on board and increase the timeliness of disclosed information on their websites. On the other hand, STASHRE was negatively associated with IFR TIMELINESS, which means that companies with more state-owned share disclosed less timeliness information on their websites. ROA, LEVERAGE, INDUSTRY, BIG4, LEGSHARE and BOARDSIZE had no significant relationship with IFRTIMELINESS. The finding contradicts that of Abdelsalam and Street (2007), who found that board independence is negatively associated with timely corporate Internet reporting.

Agency theory, signalling theory and stewardship theory can explain the findings for IFR TIMELINESS. Independent directors are less aligned with management, and consequently are more inclined to encourage firms to disclose timely information to outside investors. Stewardship theory argues CEODUALITY, which establishes strong, unambiguous leadership, embodied in a unity command, so that firms with CEO duality can make better and faster decisions. In the case of China, this finding suggests firms with CEO duality act in the best interests of companies and shareholders to disclose timely information on their websites.

Table 6.13 Regression Models of Timeliness for 284 Companies

	Partially transformed Score Method		Rank Regression Method		Normal Score Regression Method	
R Square	0.423		0.456		0.471	
Adjusted R Square	0.399		0.434		0.450	
Std. Error of the Estimate	0.200		21.50		0.69	
F Change	18.098		20.756		22.057	
Sig. F Change	0.00		0.00		0.00	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	-1.408	-6.421	-174.571	-7.405	-7.352	-9.583
LNSIZE	.082	7.630**	9.203	8.013**	.304	8.146**
ROA	-.004	-1.534	-.463	-1.624	-.016	-1.714
LEVERAGE	-.074	-1.011	-4.308	-.551	-.208	-.818
INDUSTRY	.056	1.482	4.254	1.050	.170	1.286
BIG4	.032	.815	3.949	.935	.152	1.106
STASHARE	-.002	-2.735*	-.201	-3.045*	-.007	-3.166*
LEGSHARE	-.001	-1.184	-.102	-1.468	-.003	-1.120
FSHARE	.003	2.447*	.297	2.577*	.012	3.279*
CEODUALITY	.070	2.247*	8.410	2.511	.238	2.179*
BOARDSIZE	-.001	-.459	-.085	-.248	-.006	-.544
INDEPDIR	.004	2.618**	.433	2.779**	.014	2.714**

*Significant at the 5% level ($p<0.05$) ** Significant at the 1% level ($p<0.01$)

6.4.3.5 Factors determining presentation format

Three multivariate analyses were used to examine the association between the extent of IFR PRESENTATION and their explanatory variables. Tables 6.14 shows that the adjusted R^2 for the three models was 42.5%, 42.8% and 44.1% for the PRESENTATION model, which means that 44.1% of the variation in the IFR presentation is explained by the explanatory variables of this model. All models are significant at $p<0.000$; the F values were 18.31, 18.46 and 19.52. The Durbin-Watson values were 1.655, 1.66 and 1.643, all less than 2, which indicate that there was no autocorrelation between the variables.

The results of three multivariate analyses reveal that company SIZE, INDUSTRY, BIG4, CEODUALITY and INDEPDIR are positively associated with IFR PRESENTATION in all three regressions. This suggests that bigger high-tech companies audited by Big-4 auditing companies with their CEO serving as chairman of the board and more independent directors on board increase the presentation of disclosed information on their websites. There was no significant relationship between ROA, LEVERAGE, STASHARE, LEGSHARE, FSHARE and BOARDSIZE and IFR PRESENTATION.

A number of theories may explain the findings relating to IFR presentation depending on the examined explanatory variables. The benefits of information benefit outweigh the costs, which might explain why bigger companies provided better presentation scores on their website. Signalling theory may explain why companies in the high-tech industry that have Big-4 auditing have better presentation scores.

Table 6.14 Regression Models of Presentation for 284 Companies

	Partially transformed Score Method		Rank Regression Method		Normal Score Regression Method	
R Square	0.425		0.428		0.441	
Adjusted R Square	0.402		0.404		0.419	
Std. Error of the Estimate	0.161		22.14		0.737	
F Change	18.311		18.468		19.518	
Sig. F Change	0.00		0.00		0.00	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	-.913	-5.168	-146.445	-6.033	-6.543	-8.099
LNSIZE	.057	6.673**	7.876	6.661**	.265	6.739**
ROA	-.003	-1.368	-.460	-1.566	-.015	-1.509
LEVERAGE	-.054	-.925	-4.699	-.583	-.189	-.705
INDUSTRY	.068	2.230*	8.361	2.004*	.310	2.234*
BIG4	.057	1.797*	8.039	1.849*	.317	2.189*
STASHARE	-0.005	.106	.006	.084	.000	.191
LEGSHARE	-.001	-1.234	-.068	-.942	-.002	-.971
FSHARE	.001	1.210	.155	1.309	.005	1.356
CEODUALITY	.056	2.224*	6.943	2.013*	.250	2.181*
BOARDSIZE	.001	.420	.110	.312	.002	.181
INDEPDIR	.003	2.177*	.366	2.281*	.010	1.962*

*Significant at the 5% level (p<0.05)** Significant at the 1% level (p<0.01)

6.4.3.6 Factors determining usability score

Three multivariate analyses were used to examine the association between the extent of IFR USABILITY and their explanatory variables. Tables 6.15 shows that the adjusted R^2 for the three models was 43.8%, 40.1% and 40.4% for the usability model, which means that 40.4% of the variation in the IFR usability is explained by the explanatory variables of this model. All models were significant at $p<0.000$; the F values were 19.23, 16.56 and 16.77. The Durbin-Watson values were 1.864, 1.88 and 1.866, all less than 2, which indicate no autocorrelation between the variables.

The results of multivariate analysis reveal that company SIZE, INDUSTRY and were positively associated with IFR USABILITY in all three regressions. ROA was negatively associated with IFR USABILITY in all three regressions. This suggests that bigger companies within the high-tech industry type that have more board members disclose more usability information on their websites, more profitable companies disclose less usability information on their websites. LEVERAGE, BIG4, STASHARE, LEGSHARE, CEODUALITY and INDEPDIR had no significant relationship with IFR USABILITY. The findings of IFR usability can be explained by signalling theory, bigger firms have a great incentive to signal their quality by means of improved IFR usability.

The explanatory models have been estimated using three different techniques (partially transformed, rank and normal scores) in order to determine the association between the 11 independent variables and the total score and its six sun-sections. The overall conclusion arising from the 21 regression models will be discussed in the Chapter's summary.

Table 6.15 Regression Models of Usability for 284 Companies

	Partially transformed Score Method		Rank Regression Method		Normal Score Regression Method	
R Square	0.438		0.401		0.404	
Adjusted R Square	0.415		0.377		0.38	
Std. Error of the Estimate	0.1432		22.65		0.761	
F Change	19.234		16.563		16.771	
Sig. F Change	0.00		0.00		0.00	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	-.941	-5.992	-158.668	-6.388	-7.124	-8.611
LNSIZE	.061	7.963**	9.010	7.447**	.309	7.655**
ROA	-.006	-3.255*	-.800	-2.664*	-.032	-3.186*
LEVERAGE	-.024	-.463	-3.062	-.372	-.132	-.480
INDUSTRY	.065	2.417*	10.236	2.397*	.329	2.316*
BIG4	.043	1.524	5.141	1.156	.194	1.306
STASHARE	-.001	-1.725	-.113	-1.631	-.004	-1.603
LEGSHARE	.000	.901	.060	.820	.003	1.054
FSHARE	.001	1.533	.181	1.492	.006	1.513
CEODUALITY	.029	1.304	4.734	1.342	.159	1.349
BOARDSIZE	-.003	-1.532	-.508	-1.408	-.017	-1.455
INDEPDIR	.002	1.562	.251	1.529	.009	1.629

*Significant at the 5% level ($p<0.05$) ** Significant at the 1% level ($p<0.01$)

6.5 Results of the logistic regression analysis

Table 6.3 shows that 207 (73%) of the 284 sample companies with accessible websites had an English-language version of their website. This is an improvement on the figures reported by Xiao et al. (2004), who found that 47.3% of companies surveyed had English websites. The logistic regression analysis examined what factors determine whether companies have an English-language version. It was also found that 206 (72.9%) of companies provided financial information on their website in this study. Allam and Lymer (2003) also found that 96% of companies disclosed financial information on their websites in the five developed countries surveyed. This difference between Chinese listed companies and those in other developed countries led this study to examine the factors determining whether companies provide financial information on their websites.

Binary logistic regression is an alternative to traditional regression analysis and simultaneously predicts the probability of an event (Hair et al., 1998, Mertler and Vannatta 2005). Logistic regression is used where the dependent variable is not a quantitative or continuous variable (George and Mallery, 2000) and tests the ability of a model or a group of variables to predict group members as defined by categorical variables. Logistic regression also provides several distinct advantages over multiple regressions as the independent variables do not have to be normally distributed, linearly related or have equal variance within each group. This makes logistic regression more flexible than other parametric techniques (Tabachnick and Fidell, 2001). Logistic regression was run to test models to predict whether or not a company has an English-language website. The second logistic regression was run to test models to predict whether a company discloses financial information on its website. This section presents the results of two logistic regressions.

6.5.1 Companies with English-language websites

Binary logistic regression was used to determine which of the independent variables significantly predict that a company has English-language pages on their website. Before running the regression, the multicollinearity problem was checked by testing the variance inflation factors (VIFs) factors for each individual independent variable. The value of VIF factors ranged from 1.089 to 2.841; none individually exceeded 3.0, which indicated that there is no multicollinearity.

The results of the binary logistic regression model are shown in Table 6.32. Cox and Snell R^2 (11.7%) and Nagelkerke R^2 (17.0%) were used to measure the proportion of variability in the dependent variables that can be accounted for by all of the independent variables in this model. The R^2 shows that this model has a 11.7% to 17.0% degree of explanatory power. The Chi-Square goodness of fit was 35.427 (p=0.00). Only two of the explanatory variables (LNSIZE p-value=0.003) were positively significantly reliable at distinguishing whether or not a company had an English-language version. Larger companies tend to have English-language webpages. STASHARE and CEODUALITY were negatively significantly related with ENWEB at 0.10 and 0.05 levels. This suggests that companies that hold more state-owned shares and had a CEO acting as chair of the board were unwilling to have English-language versions of their websites.

Table 6.16 Logistic regression model (Company has English on their website or not)

	Chi-square	**df**	**Sig.**	**-2 Log likelihood**	**Cox & Snell R Square**	**Nagelkerke R Square**
Model	35.427	11	.000	296.499	.117	.170
	B	**S.E.**	**Wald**	**df**	**Sig.**	**Exp(B)**
LNSIZE	.396	.135	8.612	1	.003**	1.486
ROA	-.035	.031	1.279	1	.258	.966
LEVERAGE	.238	.860	.077	1	.782	1.269
INDUSTRY	.373	.461	.654	1	.419	1.452
BIG4	-.542	.564	.923	1	.337	.582
STASHARE	-.014	.008	3.246	1	.072*	.986
LEGSHARE	.006	.008	.579	1	.447	1.006
FSHARE	.022	.017	1.712	1	.191	1.022
CEODUALITY	-.927	.414	5.014	1	.025**	.396
BOARDSIZE	-.060	.039	2.354	1	.125	.942
INDEPDIR	.017	.018	.857	1	.355	1.017
Constant	-6.934	3.112	4.963	1	.026	.001

*Significant at the 10% level (p<0.10)
** Significant at the 5% level (p<0.05)
*** Significant at the 1% level (p<0.01)

This result is not consistent with Xiao et al.'s (2004), who suggested foreign share ownership has a positive and statistically significant coefficient. Agency theory provides an explanation for management to disclose voluntarily. State ownership structures do not truly represent stakeholder's interest when listing companies and state shareholders due to their lack of interest in disclosing English-languages versions. In addition, this finding suggests listed companies holding a greater percentage of state-owned shares do not consider such information necessary to international investors. State owners do not express a high demand for the disclosure of English-language versions, as they tend not to consider international investors a primary concern

6.5.2 Provision of financial information by companies

This section examines what factors determine whether companies disclose financial information on their websites. The results of the second binary logistic regression model are shown in Table 6.33. The Cox and Snell R^2 (25.1%) and Nagelkerke R^2 (36.3%) measures show the proportion of variability in the dependent variables that can be accounted for by all of the independent variable in this model. The R^2 in this model has a 25.1% to 36.3% degree of explanatory power. The Chi-Square goodness of fit was 82.11 (p=0.00). One of the predicator variables (LNSIZE p-value=0.000) was positively significantly reliable at distinguishing whether companies have financial information on their websites. Another of the predictor variables, FSHARE (p-value=0.96), was positively significantly related to the dependent variables FWEB (dummy variable that examines whether companies have financial information). Larger companies that have more foreign shares therefore tend to disclose financial information online.

On the other hand, LEVERAGE (p-value=0.019), INDUSTRY (p-value = 0.69) and STASHARE (p-value = 0.012) were negatively significantly related with FWEB at the 0.05, 0.10 and 0.05 levels. This suggests that high-technology companies that hold more state-owned shares and have a high debt ratio were unwilling to disclose financial information on their websites. State-owned companies provided less financial information on their websites, a result that is consistent with Xiao et al. (2004). This result was interpreted as a reflection of the current lack of emphasis on efficiency and profitability by state shareholders or their direct access to corporate insider information. The negative relationship between financial information on the Internet and leverage levels is consistent with the results of Eng and Mak (2003) and Cormier et al. (2009). A possible explanation is that agency problems, for this result may be that the debt holders

may be informed through other (private) channels, which would result in a decreased use of IFR for companies with high debts (Bollen et al., 2006).

Table 6.17 Logistic regression model (Company has Financial information on their website or not)

	Chi-square	df	Sig.	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
Model	82.110	11	.000	251.776	0.251	0.363
	B	**S.E.**	**Wald**	**df**	**Sig.**	**Exp(B)**
LNSIZE	0.763	0.165	21.278	1	0.00***	2.145
ROA	-0.046	0.035	1.716	1	0.19	0.955
LEVERAGE	-2.221	0.946	5.515	1	0.019**	0.108
INDUSTRY	-1.426	0.785	3.302	1	0.069*	0.24
BIG4	-1.125	0.839	1.798	1	0.18	0.325
STASHARE	-0.024	0.01	6.264	1	0.012***	0.976
LEGSHARE	0	0.008	0.014	1	0.905	0.999
FSHARE	0.034	0.021	2.773	1	0.096*	1.035
CEODUALITY	-0.513	0.403	1.62	1	0.203	0.598
BOARDSIZE	0.061	0.049	1.561	1	0.211	1.063
INDEPDIR	0.007	0.02	0.121	1	0.728	1.007
Constant	-13.09	3.791	11.924	1	0.001	0

*Significant at the 10% level (p<0.10)
** Significant at the 5% level (p<0.05)
*** Significant at the 1% level (p<0.01)

6.6 Sensitivity analysis

To further test the consistency of the results presented in the previous section, a series of regression analyses were performed. A weight system on dependent variables (weighting the 'content' element twice compared to the other elements) was first used, followed by the use of different measurement of companies' size, for example turnover, total assets and total numbers of employees as a proxy for size. Thirdly, different measurements of a company's profitability were used to test the regression.

6.6.1 Using different measurements as a proxy for size

To further test the consistency, three measurements were tested as proxies for company size. The original measurement for size was market captalisation. However, other measurements for size, such as a company's turnover, total assets and total staff numbers can also be tested. The normal scores of regression were performed. Table 6.18 show the results of three tests. There were slight differences in the results compared to the original research. In contrast to the original results, when the regression was performed using total turnover as a proxy for size, LEVERAGE had a significantly negative relationship with TOTALSCORE, while CEODUALITY had no significant relationship with TOTALSCORE in one Model. When the regression was performed using total assets as a proxy for size, LEVERAGE had a significant negative relationship with TOTALSCORE, INDUSTRY and BIG4 and did not show any significantly relationship with TOTALSCORE in another model. When the regression was performed using total staff numbers as a proxy for size, STASHARE did not significantly affect IFR TOTALSCORE. The majority of other explanatory variables held the same level of significance, although the coefficients varied. Considering that CEODUALITY and BIG4 were only rated insignificant in one of four sensitivity analysis models, the results of the hypotheses remain unchanged.

6.6.2 Using different measurements as a proxy for profitability

Additional tests can be done by different measurements of profitability. The original measurement of profitability was the return on assets ratio; it can also be measured by return on equity ratio. The additional regression was run using different measurements of profitability, as reported in Table 6.18. Although the coefficients of the explanatory variables varied, the significance of the results remained the same.

Table 6.18 Sensitivity analysis

	Sensitivity analysis 1 (Total Staff number)		**Sensitivity analysis 2 (Total Turnover)**		**Sensitivity analysis 3 (Total Assets)**		**Sensitivity analysis 4 (ROE)**	
R Square	0.468		0.502		0.545		0.545	
Adjusted R Square	0.446		0.482		0.527		0.527	
Std. Error of the Estimate	0.732		0.70		0.676		0.676	
F Change	21.32		24.973		29.659		29.660	
Sig. F Change	0.00		0.00		0.00		0.00	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	-2.281	-7.29	-5.319	-9.125	-6.409	-10.847	-7.468	-10.209
LNSIZE	.174	5.869***	.227	7.471**	.286	9.313***	.306	9.048**
ROA	.013	1.499	-.005	-.592	-.001	-.084	-.003	-.804
LEVERAGE	.053	.201	-.538	-1.909*	-.727	-2.722*	-.066	-.316
INDUSTRY	.478	3.528***	.481	3.676**	.129	.973	.345	2.725***
BIG4	.572	4.140***	.415	2.996	.187	1.342	.359	2.718***
STASHARE	-.003	-1.224	-.004	-1.798*	-.005	-2.500**	-.005	-2.525**
LEGSHARE	-.003	-1.062	-.001	-.347	-.002	-.781	-.003	-1.170
FSHARE	.008	1.974*	.007	1.800*	.007	1.841	.009	2.522**
CEODUALITY	.217	1.899*	.173	1.575	.229	2.174**	.234	2.204**
BOARDSIZE	.007	.608	.008	.721	-.011	-.981	-.006	-.511
INDEPDIR	.012	2.334**	.010	1.876*	.009	1.854*	.010	2.021**

*Significant at the 10% level (p<0.10)** Significant at the 5% level (p<0.05) *** Significant at the 1% level (p<0.01)

6.7 Summary

The empirical results showed that 95% (284) companies had their own websites, including 149 of the biggest companies and 135 of the smallest Chinese listed companies, whilst 5% (six) of the companies did not provide any information. It was found that 73% (207) companies disseminated English-language information on their websites and 72.9% (206) had financial information on their websites. Compared to the previous research by Xiao et al. (2004), the descriptive analyses showed that companies are trying to improve their reporting quantity and quality through voluntary disclosure on their websites. There was a relative improvement in the disclosure of financial information, corporate governance information, social responsibility information, timeliness of disclosure, presentation and usability on sampled websites. However, compared to recent research in the US, UK and other western countries, it was suggested that the quality of IFR still needs to be improved in China to meet the expectations of development in the global securities market. This requires more open and transparent information disclosure for listed companies.

The results of multivariate analysis were mixed, which to some extent was consistent with previous research. Company size, industry type, Big-4 auditor type, state share ownership, foreign share ownership, CEO duality and the proportion of independent directors were significant explanatory variables for the total score disclosed on corporate websites. Leverage, profitability, legal personal ownership and board size have no predictive value for Internet reporting practices for listed companies. Classifying IFR into content score, corporate governance score, social responsibility score, timeliness score, presentation score and usability score provided new directions for explaining the relationships between IFR and their determinants. Only size, industry type and state share ownership can explain IFR, whilst the corporate governance score, size, profitability, state share ownership and the proportion of independent directors on board predicts the IFR social responsibility score. IFR timeliness can be explained by size, state share ownership, foreign share ownership, CEO duality and the proportion of independent directors on board. Additionally, the results showed that when a higher proportion of shares are held by the state, there is a tendency not to provide an English-language version of the website. This indicates that shareholders are less keen to improve their web facilities and transparency, which would offer quality websites to maintain global investor relations. State-owned companies rely heavily on finance and

lack incentives to disclose financial information on their websites. Similar results were obtained from sensitivity analysis.

The findings partly meet the expectation of agency theory, signalling theory, institutional theory and the cost and benefits approach (Table 6.22). Additionally, stewardship theory explained one of the corporate governance factors, namely CEO duality.

Table 6.19 The results of the hypotheses tested

Hypothesis	Independent Variables	Results	Related Theory
H1	Size	+	Agency theory Signalling theory Cost and benefit approach
H2	Profitability (ROA)	No relation	
H3	Leverage	No relation	
H4	Industry type	+	Signalling theory
H5	Auditor type (Big 4)	+	Agency theory Signalling theory
H6	State ownership	_	Agency theory Institutional theory
H7	Legal person ownership	No relation	
H8	Foreign share ownership	+	Agency theory Institutional theory
H9	CEO Duality	+	Stewardship theory
H10	Board size	No relation	
H11	Independent directors	+	Agency theory

The next chapter discusses the economic consequences of IFR on Chinese listed companies.

Chapter 7 Economic consequences of the IFR and its components

7.1 Introduction

Chapter 5, which examined agency theory, signalling theory and cost benefit theory, as well as prior studies on this topic, raised one question: does IFR and its components have any impact on the value of Chinese listed firms? In order to answer the question, one set of hypotheses were drawn up to test the relationship between IFR and IFR components and firm value. Three years of firm value data were collected and tested to determine the economic impact of IFR and its components. The results of the descriptive study, comparison study, univariate analysis and multivariate regression analysis are presented here and summarised at the end of this chapter.

7.2 Descriptive statistics

7.2.1 Measurement of Firm value

Tobin's Q is the ratio of market value to replacement cost; it was adapted from macroeconomics to analysis at the industry and firm level. Slightly different formulations of Tobin's Q have been used, all aiming to capture the theoretical argument that relates market value to the cost of replacing those assets (Sharma et al., 2013). In this study, only basic financial and accounting information was used, thereby avoiding data availability problems. This indicator reveals the potential of the added value of the company as perceived by the market as a reflection of its performance. If Tobin's Q is greater than 1.0, it indicates that the company has a market value exceeding the price of the replacement of its assets. The consequential added-value for the shareholders would then refer to the capacity of investment to remunerate the owners' capital.

The market/book ratio, which incorporates both historical accounting and forward-looking market indicators of firm performance, provides a theoretical rationale for its use as a measure of performance (Lee and Makhija, 2009). The ratio reflects the premium (or discount) the market gives to the firm on its net assets, and, as such, reflects the efficiency with which the market views the firm is being managed (Sharma et al., 2013). The MBR reflects the incentives for additional capital investments to grow

the firm (Goranova et al., 2010). MBR is thus indicative not only of efficiency in asset utilisation but also of future growth potential (Sharma et al., 2013).

Firm value was measured by Tobin's Q and the MBR in this study. Data from two years (2010 and 2011) was collected in order to gain a better understanding of how IFR affected the firm value in the same year and the year after, when the web disclosure index was collected. The measurement of Tobin's Q for 2010 and 2011, MBR for 2010 and 2011 were discussed in Chapter 5.8.3. In this study, a Tobin's Q and the market/book ratio value was greater than 25, this figure was considered to be an outlier and was excluded from the study. Thus, 4 companies in 2010 and 6 companies in 2011 were excluded from the study.

Table 7.1 shows that the mean values of Tobin's Q in 2010 and 2011 were 2.78 and 1.88, the median values were 2.26 and 1.57. The mean value of Tobin's Q exceeded 1, which implies that on average the resources of listed companies are used effectively. Bai et al. (2004), who observed 865 Chinese companies in 1999, 2000 and 2001, found that the mean values of Tobin's Q were 2.574, 3.645 and 2.689. The maximum values of Tobin's Q in this study were 11.57, 6.96 and 10.55; the minimum values of Tobin's Q were 0.34, 0.73 and 0.77 for 2010, 2011. Similarly, in Bai et al. (2004), the maximum values of Tobin's Q in 1999, 2000 and 2001 were 13.38, 18.34 and 25.74. The minimum values of Tobin's Q were 0.58, 0.88 and 0.68. Shan and Xu (2012) examined 139 Chinese listed companies during the period 1999 to 2009. The Tobin's Q mean value was calculated to be 1.39, the median value 0.648, whilst the maximum value of Tobin's Q was 28.34 and the minimum 0.08. Leung and Cheng (2013) examined the largest Chinese listed companies. Of the 4,913 companies they studied, similar results were obtained regarding Tobin's Q. The positive skewness values indicate that scores clustered to the left at the low values. The values of kurtosis for Tobin's Q were 4.62 and 6.15. The positive kurtosis indicates that the distributions are rather peaked.

Table 7.1 also shows that the mean values of the MBRs were 3.11 and 1.99. In this study, the maximum values for the MBRs were 11.46 and 6.87, with minimum values of 0.04 and 0.03. In a study of listed companies in Egypt, Ezat (2010) found that the mean value of MBR was 1.89 with an SD of 2.89. The maximum value for the MBR was 40.83 and the minimum 0.07. The positive skewness values indicate that scores are clustered to the left at low values, and the values of kurtosis for the market/book ratio

were 4.62, 6.15 and 3.57. Positive kurtosis indicates that the distributions are rather peaked.

Descriptive statistics for the independent variables used in this chapter (TOTALSCORE, CONTENT, TIMELINESS, PRESENTATION, USABILITY, LNSIZE, ROA, STASHARE, LEGSHARE, FSHARE, CEODUALITY, BOARDSIZE and INDEPDIR) can be found in Chapter 6 Table 6.4 & Table 6.5.

Table 7.1 Descriptive statistics for firm's value

	TOBINSQ2010	MBR 2010	TOBINSQ2011	MBR2011
N	284	280	282	278
Mean	2.78	2.30	1.88	1.40
Median	2.26	1.77	1.57	1.14
Std. Deviation	1.87	1.99	1.08	1.20
Variance	3.48	3.98	1.16	1.43
Skewness	1.93	1.73	2.25	1.84
Kurtosis	4.62	3.78	6.15	4.44
Range	11.23	11.42	6.23	6.84
Minimum	0.34	0.04	0.73	0.03
Maximum	11.57	11.46	6.96	6.87

Notes: All the variables are defined in Table 5.3

7.2.2 Comparison of firm value

7.2.2.1 Comparison of firm value between the bigger and smaller companies

Company size is one of the factors determining IFR and IFR components. Larger companies provide more information than smaller companies, as well as more information on the reduced perceived estimation risk to investors, assuming that company size is inversely related to the firm's cost of finance and firm value (Boston and Plumlee, 2005; Gunasekarage et al., 2007; Garay et al., 2013). It is of interest to determine the difference in firm value between the 149 bigger companies and 135 smaller companies in a Chinese context.

Table 7.2 compares the values obtained for the 149 bigger companies and 135 smaller companies in 2010. Mann-Whitney tests were performed to find out the results. As

shown in Table 7.2, the smaller sample companies had a greater average increase in Tobin's Q 2010 value more than did the bigger sample companies (the mean rank increased from 115.68 to 172.1), with a z value of -5.781 and significant level at 0.00. There was a statistically significant difference in Tobin's Q value 2010 between the bigger and smaller sample companies. At the same time, the smaller sample companies increased the MBR 2010 value by a greater amount than did the bigger sample companies (mean rank increased from 114.19 to 168.76), with a z value of -5.634 with a significant level at 0.00. This indicated that there is a statistically significant difference between the smallest and bigger sample companies' MBR 2010.

Table 7.2 Mann-Whitney test (Bigger and smaller companies in 2010)

Mann-Whitney				
	SIZETYPE	N	Mean Rank	Z- values
TOBINSQ2010	SMALLERCOMPANIES	135	172.1	-5.781**
	BIGGERCOMPANIES	149	115.68	
MBR2010	SMALLERCOMPANIES	135	168.76	-5.634**
	BIGGERCOMPANIES	145	114.19	

Similar results are shown in Table 7.3, which shows the comparison value between the 149 bigger sample companies and the 135 smaller companies in 2011. On average, the smaller sample companies had an increased Tobin's Q 2011 value compared to the bigger sample companies (mean rank increased from 111.31 to 175.32), with a z value of -6.58 and significant level at 0.00. There was a statistically significant difference between the smaller and bigger sample companies' Tobin's Q value 2011. At the same time, there was an increase in the MBR 2011 value for the smaller sample companies compared to the bigger sample companies (mean rank increased from 107.07 to 176.42), with a z value of -7.175 and significance level at 0.00. This indicated that there was a statistically significant difference between the smaller and bigger sample companies' MBR in 2011. The same results were obtained when additional t-tests were used to test whether there was a significant difference in the firm value score for the bigger and smaller companies.

This result is consistent with Shan and Xu (2012), who found firm size had a significant negative relationship with Tobin's Q in their model. Shan and Xu (2012) suggested that large firms may have an opportunity for the controlling shareholders (state or legal entities) to appropriate and exploit firm value.

Table 7.3 Mann-Whitney test (Bigger and smaller companies in 2011)

Mann-Whitney				
	SIZETYPE	N	Mean Rank	Z-values
TOBINSQ2011	SMALLERCOMPANIES	133	175.32	-6.58**
	BIGGERCOMPANIES	149	111.31	
MBR2011	SMALLERCOMPANIES	130	176.42	-7.175**
	BIGGERCOMPANIES	148	107.07	

7.2.2.2 Comparison of firm value for companies with or without an English-language website

This study found that 207 Chinese listed companies had an English-language version of their website, which may indicate that their focus on becoming global has led them to advantage of having a website that can be accessed by existing and potential shareholders anywhere in the world. The use of the English language on the companies' websites may be regarded as a signal to investors that their quality of disclosure has improved. These tests add to the literature on the difference in firm value between companies who have English-language versions of their websites and those who do not.

Table 7.4 compares the 207 companies who in 2010 had an English-language version of their website with the 77 companies who did not. Mann-Whitney tests were used to calculate the results. As shown in Table 7.4, companies without an English-language website had on average an increased Tobin's Q 2010 value compared to companies with an English-language version (mean rank increased from 134.66 to 163.58), with a z value of -2.639 at a significant level 0.00. There is thus a statistically significant difference in the Tobin's Q value 2010 between sample companies with and without an English-language version. At the same time, companies without an English-language version had a greater MBR 2010 value than companies with an English version (mean rank increased from 134.63 to 163.66), with a z value of -2.648 and a significance level of 0.00. This indicated that there is a statistically significant difference between sample companies with and without an English-language version with respect to the MBR 2010.

Table 7.4 Mann-Whitney test (Companies with or without English version website in 2010)

Mann-Whitney				
	ENGWEB	N	Mean Rank	Z-values
TOBIN'SQ2010	WEB without English version	77	163.58	-2.639**
	WEB with English version	207	134.66	
MBR2010	WEB without English version	77	163.66	-2.648**
	WEB with English version	207	134.63	

Similar results are shown in Table 7.5, which compares the values obtained for 77 companies without English-language versions of their websites and 205 companies with English-language versions in 2011. On average, companies without English-language versions had a higher Tobin's Q 2011 value than companies with an English-language version (mean rank increased from 130.77 to 170.07), with a z value of -3.606. There was thus a statistically significant difference in the Tobin's Q value 2011 between sample companies with an English-language version and those lacking this. At the same time, companies without an English-language version of the website had an increased MBR2011 value than companies who did have an English-language version (mean rank increased from 130.88 to 169.77), with a z value of -3.568 and a significance level of 0.00. This indicated a statistically significant difference in the MBR2011 between sample companies with an English-language version and those without.

Table 7.5 Mann-Whitney test (Companies with or without English version website in 2011)

Mann-Whitney				
	ENGWEB	N	Mean Rank	Z-Values
TOBINSQ2011	WEB without English version	77	170.07	-3.606**
	WEB with English version	205	130.77	
MBR2011	WEB without English version	77	169.77	-3.568**
	WEB with English version	205	130.88	

The same results were obtained when additional T-tests were used to test whether there was a significant difference in the firm value score for companies with or without an English-language version of their websites.

This result is consistent with Botosan and Plumlee (2002), who found increased disclosure was sensitive to the type of disclosure being made, they also found positive, negative, and no association between different types of disclosure and the cost of

capital. Hassan et al. (2009) found voluntary disclosure had a positive but insignificant association with firm value. In the context of China, higher value firms may choose not to disclose English information on their websites, as they consider the benefits of English information are outweighed by the associated cost; for example the cost of preparing English information and the costs associated with information disclosure by international competitors. As the market in China does not operate openly, it can also be concluded that higher value firms may be able to gain preferential treatment from the government, such as preferential loans and large product orders (Sun et al., 2012) and less reliance on international investors.

7.2.2.3 Comparison of firm value companies with or without financial information

The web is now perceived as a convenient platform for the disclosure of both financial and non-financial information (Robb et al., 2001). This study found that 206 Chinese listed companies provided their financial information on their websites. Previous research has focused on the disclosure of financial information and investor relations on corporate websites (Ashbaugh et al., 1999; Debreceny et al., 2002; Xiao et al., 2004). It is of interest to determine how the inclusion or omission of financial information affects firm value.

Table 7.6 shows the results of the Mann-Whitney tests used to find out the difference in firm value between companies with or without financial information. Surprisingly, companies who did not disclose financial information had on average a higher Tobin's Q 2010 value than companies who did (mean rank increased from 130.41 to 174.42), with a z value of -4.03 with a significance level of 0.00. There was thus a statistically significant difference between the Tobin's Q values 2010 for companies that disclosed financial information and those who did not. At the same time, companies whose websites did not provide financial information had a higher MBR 2010 value than companies who did provide financial information (mean rank increased from 129.25 to 168.85), with a z value of -3.64 and significance level of 0.00. This indicated that there was a statistically significant difference in the MBR 2010 between companies with or without financial information.

Table 7.6 Mann-Whitney test (Companies with and without financial information in 2010)

Mann-Whitney				
	FWEB	N	Mean Rank	Z-values
TOBINSQ2010	WEB without Financial information	78	174.42	-4.031**
	WEB with Financial information	206	130.41	
MBR2010	WEB without Financial information	78	168.85	-3.64**
	WEB with Financial information	202	129.55	

With regards to firm value in 2011, similar results are shown in Table 7.7. Companies who did not disclose financial information had a higher Tobin's Q 2011 value than companies who did (mean rank increased from 130.37 to 171.4), with a z value of -3.774 and a significant level at 0.00. There was a statistically significant difference in the Tobin's Q value 2011 between companies who disclosed financial information and those who did not. At the same time, companies who did not provide financial information on their websites had a higher MBR 2011 value than companies who did (mean rank increased from 127.52 to 172.53), with a z value of -4.13 and significant level at 0.00. This indicated that there was a statistically significant difference in the MBR 2011 between companies with or without information.

Table 7.7 Mann-Whitney test (Companies with and without financial information in 2011)

Mann-Whitney				
	FWEB	N	Mean Rank	Z- values
TOBINSQ2011	WEB without Financial information	77	171.4	-3.774**
	WEB with Financial information	205	130.27	
MBR2011	WEB without Financial information	74	172.53	-4.125**
	WEB with Financial information	204	127.52	

Similar results were obtained when additional T-tests were carried out to test whether there was a significant difference in the firm value score for companies with and without financial information on their websites.

This result is consistent with that in the previous study (Botosan and Plumlee, 2002). Hassan et al. (2009) suggested the mixed results emphasise that the association between disclosure and firm value is complex and reliant on the interplay of a number of factors, such as the trade – off between the costs and benefits associated with disclosure. In the case of China, when financial information that could reveal certain crucial aspects of a firm's operations is disclosed to investors, it is also disclosed to the firm's competitors,

which may disadvantage the firm competitively. For this reason, higher value firms tend not to disclose additional financial information on their websites when proprietary costs are sufficiently high.

7.3 Univariate analysis

7.3.1 Pearson correlations

Three Pearson correlation tests were run to identify the relationship between dependent variables (firm value) and independent variables. For firm value at the end of 2010, Table 7.8 shows that both the Tobin's Q 2010 and the MBR 2010 were negatively associated with total scores, company size, the proportion of foreign shares and board size at the 0.01 level. Both Tobin's Q 2010 and the MBR 2010 were positively associated with ROA and the proportion of LEGALSHARE at the 0.01 level, but not with CEODUALITY. Similarly, there was no relationship between firm value and the proportion of STASHARE and INDEPEDIR in 2010.

For firm value at the end of 2011, Table 7.9 shows that both Tobin's Q 2011 and the MBR 2011 were negatively associated with total scores, company size, the proportion of foreign shares and board size at the 0.01 level. Both Tobin's Q 2011 and the MBR 2011 were positively associated with ROA at the 0.01 level. There was no relationship between firm value and the proportion of STASHARE, LEGSHARE, CEODUALITY and INDEPEDIR in 2011.

7.3.2 Spearman's rho correlations

Three Spearman' rho correlation tests were run to identify the relationship between dependent variables (firm value) and independent variables. With regard to firm value measured at the end of 2010, Table 7.11 shows that both Tobin's Q 2010 and the MBR 2010 were negatively associated with total scores, company size, the proportion of state shares, foreign shares and board size at the 0.01 level. Both Tobin's Q 2010 and the MBR 2010 were positively associated with ROA and the proportion of legal shares. However, in this test, the MBR 2010 was positively associated with CEODUALITY at the 0.05 level, whilst there was no relationship with Tobin's Q 2010. There was no relationship between firm value and the proportion of INDEPEDIR in 2010. The difference between these tests and the Pearson correlation test was that both Tobin's Q

2010 and the MBR 2010 were negatively associated with the proportion of state shares at the 0.01 level.

For firm value measured at the end of 2011, Table 7.12 shows that both Tobin's Q 2011 and the MBR 2011 were negatively associated with total scores, company size, the proportion of state and foreign shares and board size at the 0.01 level. Both Tobin's Q 2011 and the MBR 2011 were positively associated with ROA. There was no relationship between firm value and CEODUALITY or INDEPEDIR in 2011. The MBR 2011 was positively associated with the proportion of LEGSHARE at the 0.05 level. There was no relationship between Tobin's Q 2011 and the proportion of LEGSHARE.

Table 7.8 Correlations matrix of Independent and Dependent variables

	TOBINSQ 2010	MBR2010	TOTAL SCORE	LNSIZE	ROA	STA SHARE	LEG SHARE	FSHARE	CEODUALITY	BOARD SIZE	INDEP DIR
TOBINSQ2010	1										
MBR2010	.995**	1									
TOTALSCORE	-.302**	-.305**	1								
LNSIZE	-.189**	-.211**	.608**	1							
ROA	.547**	.567**	.074	.296**	1						
STASHARE	-.091	-.085	.106	.352**	.082	1					
LEGSHARE	.208**	.234**	-.131*	-.115	.227**	-.093	1				
FSHARE	-.245**	-.259**	.301**	.271**	-.098	.002	-.140*	1			
CEODUALITY	.039	.064	.013	-.163**	.027	-.057	.120*	.002	1		
BOARDSIZE	-.209**	-.252**	.225**	.345**	-.112	.064	-.151*	.263**	-.141*	1	
INDEPDIR	-.002	.000	.198**	.147*	.038	.118*	-.009	.000	-.018	-.233**	1

Variable defined in Table 5.3

*Significant at the 5% level ($p<0.05$) ** Significant at the 1% level ($p<0.01$)

Table 7.9 Correlations matrix of Independent and Dependent variables

	TOBINSQ 2011	MBR2011	TOTAL SCORE	LNSIZE	ROA	STA SHARE	LEG SHARE	FSHARE	CEODUALITY	BOARD SIZE	INDEP DIR
TOBINSQ2011	1										
MBR2011	.985**	1									
TOTALSCORE	-.251**	-.282**	1								
LNSIZE	-.168**	-.238**	.608**	1							
ROA	.502**	.512**	.074	.296**	1						
STASHARE	-.088	-.092	.106	.352**	.082	1					
LEGSHARE	.075	.109	-.131*	-.115	.227**	-.093	1				
FSHARE	-.218**	-.250**	.301**	.271**	-.098	.002	-.140*	1			
CEODUALITY	.008	.048	.013	-.163**	.027	-.057	.120*	.002	1		
BOARDSIZE	-.127*	-.201**	.225**	.345**	-.112	.064	-.151*	.263**	-.141*	1	
INDEPDIR	-.038	-.033	.198**	.147*	.038	.118*	-.009	.000	-.018	-.233**	1

Variable defined in Table 5.3
*Significant at the 5% level ($p<0.05$) ** Significant at the 1% level ($p<0.01$)

Table 7.10 Correlations matrix of Independent and Dependent variables

	TOBINSQ 2010	MBR2010	TOTAL SCORE	LNSIZE	ROA	STASH ARE	LEGSH ARE	FSHARE	CEODU ALITY	BOARD SIZE	INDEP DIR
TOBINSQ2010	1.000										
MBR2010	.991**	1.000									
TOTALSCORE	-.454**	-.446**	1.000								
LNSIZE	-.406**	-.396**	.648**	1.000							
ROA	.403**	.445**	.095	.220**	1.000						
STASHARE	-.176**	-.161**	.165**	.337**	.091	1.000					
LEGSHARE	.153**	.173**	-.098	-.126*	.190**	.049	1.000				
FSHARE	-.393**	-.391**	.416**	.369**	-.095	.121*	-.146*	1.000			
CEODUALITY	.096	.120*	.000	-.142*	.065	-.025	.141*	-.014	1.000		
BOARDSIZE	-.337**	-.378**	.223**	.334**	-.140*	.105	-.132*	.244**	-.175**	1.000	
INDEPDIR	-.010	-.006	.196**	.149*	.036	.070	-.047	.025	.003	-.263**	1.000

Variable defined in Table 5.3
*Significant at the 5% level (p<0.05) ** Significant at the % level (p<0.01)

Table 7.11 Correlations matrix of Independent and Dependent variables

	TOBINSQ 2011	MBR2011	TOTALS CORE	LNSIZE	ROA	STAS HARE	LEGSH ARE	FSHA RE	CEODUAL ITY	BOARDS IZE	INDEP DIR
TOBINSQ2011	1.000										
MBR2011	.976**	1.000									
TOTALSCORE	-.459**	-.460**	1.000								
LNSIZE	-.425**	-.434**	.648**	1.000							
ROA	.319**	.376**	.095	.220**	1.000						
STASHARE	-.167**	-.140**	.165**	.337**	.091	1.000					
LEGSHARE	.118	.142*	-.098	-.126*	.190**	.049	1.000				
FSHARE	-.417**	-.417**	.416**	.369**	-.095	.121*	-.146*	1.000			
CEODUALITY	.063	.090	.000	-.142*	.065	-.025	.141*	-.014	1.000		
BOARDSIZE	-.284**	-.338**	.223**	.334**	-.140*	.105	-.132*	.244**	-.175**	1.000	
INDEPDIR	-.060	-.043	.196**	.149*	.036	.070	-.047	.025	.003	-.263**	1.000

Variable defined in Table 5.3

*Significant at the 5% level ($p<0.05$) ** Significant at the % level ($p<0.01$)

7.4 Multivariate regression analysis

7.4.1 The regression model

To examine the economic impact of IFR, this section describes the tests used to determine whether IFR and IFR components influence firm value. To implement this test, the multiple regression model developed by Garay et al., (2013), Leung and Cheng (2013), Orens et al., (2010), Shan and Xu (2012), Wang et al., (2008) and Silva and Alves (2004) was adopted. Firm value was measured by Tobin's Q and the MBR were the dependent variables in the model. Independent variables are IFR scores, firm size, profitability and a list of corporate governance factors. X1 (IFR total score, content score, corporate governance score, social score, presentation score and usability score) was included with the expectation that IFR and IFR components would have an impact on firm value. X2 (firm size) and X3 (profitability) were included due to the impact of the size and profitability of the company on firm value. Recent empirical evidence from China has suggested that the presence of a good set of corporate governance practices has a positive impact on firm value (Bai et al., 2004; Shan and Xu, 2010; Leung and Cheng, 2013). A number of corporate governance variables - X4 (STASHARE), X5 (LEGSHARE), X6 (FSHARE), X7 (CEODUALITY), X8 (BOARDSIZE) and X9 (INDEPDIR) were thus included in this model. Based on the hypotheses presented in Chapter 4, the regression model to be empirically investigated was as follows:

$$Y= \beta0+\beta1X1+\beta2X2+\beta3X3+\beta4X4+\beta5X5+\beta6X6+\beta7X7+\beta8X8+\beta9X9 +Ɛ$$

Where Y = Firm value measured by Tobin's Q or the MBR, X1= IFR total score, content score, corporate governance score, social score, presentation score and usability score. X2 = firm size as measured by market capitalisation (LNSIZE), X3 = profitability (ROA), X4 = shares held by state-owned corporations as a proportion of total shares (STASHARE), X5 = shares held by legal persons as a proportion of total shares (LEGSHARE), X6 = shares held by foreign shareholders (FSHARE), X7 = 1 for CEO also serving as chair of the board of directors (CEODUALITY), X8 = the number of board directors (BOARDSIZE), X9 = independent directors as a proportion of total directors (INDEPDIR).

Two sets of regression tests were performed using firm values at the end of 2010 and 2011. As based on the analysis in chapter 6, some of the independent variables were not

normally distributed, all the regressions tested in this chapter used the normal score (the van der Waerden approach). Across the six tests, VIF factors of all the explanatory variables ranged from 1.06 to 2.51. This indicated that there was no multi-collinearity problem in these models.

7.4.2 The results of regression models for firm value in 2010

The first regression test was performed using Tobin's Q 2010 as the dependent variable. As shown in Table 7.12, the adjusted R^2 was 46.7%, meaning that 46.7% of the variation in the Tobin's Q 2010 was explained by the explanatory variables of this model. This model was significant ($p<0.00$) and the F value was 26.49. The value of Durbin-Watson was 1.726, which indicates no autocorrelation between variables. Additional regression tests were performed to examine the Tobin's Q 2010 and IFR components, including CONTENT, CG, SOCIAL, TIMELINEE, PRESENTATION and USABILITY (results are shown in table 7.13 to 7.18).

Among with the explanatory variables, TOTOALSCORE, CONTENT, CG, SOCIAL, TIMELINEE, PRESENTATION, USABILITY, LNSIZE, FSHARE and BOARDSIZE had a negative effect on Tobin's Q 2010; ROA positively affects Tobin's Q 2010. There was no relationship between the other control variables and Tobin's Q 2010.

The second regression test was run by examining the MBR 2010 as a dependent variable. The results are shown in Table 7.12. The adjusted R^2 was 55.1%, which means that 55.1% of the variation in the MBR 2010 can be explained by the explanatory variables of this model. This model was significant ($p<0.00$) and the F value was 36.70. The value of Durbin-Watson was 1.75, which indicates no autocorrelation between variables. Additional regression tests were performed to examine the MBR 2010 and IFR components, including CONTENT, CG, SOCIAL, TIMELINEE, PRESENTATION and USABILITY (results are shown in table 7.13 to 7.18).

Of the explanatory variables, TOTOALSCORE, CONTENT, CG, SOCIAL, TIMELINEE, PRESENTATION, USABILITY, LNSIZE, FSHARE and BOARDSIZE had a negative effect and ROA a positive effect on the MBR 2010. As with the Tobin's Q 2010 model, there was no relationship between other control variables and the MBR2010.

7.4.3 The results of regression models for firm value in 2011

The third regression test was performed using Tobin's Q 2011 as a dependent variable. As shown in Table 7.12, the adjusted R^2 was 44.3%, meaning that 44.3% of the variation in the Tobin's Q 2011 can be explained by the explanatory variables of this model. This model was significant ($p<0.00$) and the F value was 24.01. The value of Durbin-Watson was 1.69, which indicates no autocorrelation between variables. Additional regression tests were performed to examine the Tobin's Q 2011 and IFR components, including CONTENT, CG, SOCIAL, TIMELINEE, PRESENTATION and USABILITY (results are shown in table 7.13 to 7.18).

Of the explanatory variables, TOTALSCORE, CONTENT, CG, SOCIAL, TIMELINEE, PRESENTATION, USABILITY, LNSIZE, FSHARE and BOARDSIZE had a negative effect on Tobin's Q 2011, whilst ROA had a positive effect. There was no relationship between other control variables and Tobin's Q 2011.

The fourth regression test was run by examining the MBR 2011 as a dependent variable. The results are shown in Table 7.12. The adjusted R^2 was 50%, meaning that 50% of the variation in the MBR 2011can be explained by the explanatory variables in the model. This model was significant ($p<0.00$) and the F value was 30.21. The value of Durbin-Watson was 1.82, which indicates no autocorrelation between variables. Additional regression tests were performed to examine the Tobin's Q 2010 and IFR components, including CONTENT, CG, SOCIAL, TIMELINEE, PRESENTATION and USABILITY (results are shown in table 7.13 to 7.17).

TOTALSCORE CONTENT, CG, SOCIAL, TIMELINEE, PRESENTATION, USABILITY, LNSIZE, FSHARE and BOARDSIZE had a negative effect on the MBR 2011, whilst ROA had a positive effect. As with the Tobin's Q 2011 model, there was no relationship between other control variables and the MBR 2011.

Table 7.12 Regression model of firm value (TOTALSCORE)

	TOBINSQ2010		MBR 2010		TOBINSQ2011		MBR2011	
R Square	0.467		0.551		0.443		0.500	
Adjusted R Square	0.449		0.536		0.424		0.483	
Std. Error of the Estimate	0.72		0.67		0.73		0.69	
F Change	26.494		36.709		24.010		30.217	
Sig. F Change	0.000		0.000		0.000		0.000	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	.066	.648	.099	1.045	.087	.840	.072	.739
TOTALSCORE	-.246	-3.990***	-.264	-4.636***	-.212	-3.391***	-.199	-3.365***
LNSIZE	-.204	-3.110***	-.204	-3.353***	-.230	-3.472***	-.289	-4.609***
ROA	.483	10.038***	.523	11.773	.439	9.008***	.499	10.853
STASHARE	-.128	-2.090*8	-.070	-1.214	-.095	-1.538	-.025	-.426
LEGSHARE	-.032	-.542	-.015	-.275	-.072	-1.197	-.079	-1.401
FSHARE	-.169	-2.296**	-.155	-2.259**	-.275	-3.685***	-.201	-2.860***
CEODUALITY	-.050	-.443	-.107	-1.017	-.056	-.491	-.049	-.452
BOARDSIZE	-.094	-1.775*	-.159	-3.263***	-.041	-.759	-.092	-1.825
INDEPDIR	.001	.015	-.005	-.121	-.036	-.723	-.012	-.257

*Significant at the 10% level (p<0.10) ** Significant at the 5% level (p<0.05) *** Significant at the 1% level (p<0.01)

Table 7.13 Regression model of firm value (CONTENT)

	TOBINSQ2010		MBR 2010		TOBINSQ2011		MBR2011	
R Square	0.467		0.548		0.445		0.499	
Adjusted R Square	0.449		0.533		0.427		0.482	
Std. Error of the Estimate	0.728		0.673		0.735		0.696	
F Change	26.436		36.245		24.236		30.07	
Sig. F Change	0.000		0.000		0.000		0.000	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	0.063	.614	0.095	.994	0.086	.830	0.069	.705
CONTENT	-0.234	-3.953***	-0.242	-4.413***	-0.213	-3.561***	-0.185	-3.261***
LNSIZE	-0.218	-3.427***	-0.225	-3.782***	-0.237	-3.675***	-0.303	-4.964***
ROA	0.488	10.144***	0.529	11.858***	0.444	9.127***	0.504	10.931***
STASHARE	-0.131	-2.147**	-0.074	-1.279	-0.099	-1.604	-0.028	-.471
LEGSHARE	-0.036	-.605	-0.019	-.344	-0.075	-1.257	-0.082	-1.452
FSHARE	-0.175	-2.388**	-0.164	-2.388***	-0.277	-3.737***	-0.207	-2.954***
CEODUALITY	-0.045	-.393	-0.1	-.944	-0.054	-.470	-0.044	-.402
BOARDSIZE	-0.094	-1.771*	-0.16	-3.255**	-0.04	-.747	-0.092	-1.824*
INDEPDIR	-0.003	-.067	-0.01	-.231	-0.038	-.773	-0.016	-.335

*Significant at the 10% level (p<0.10) ** Significant at the 5% level (p<0.05) *** Significant at the 1% level (p<0.01)

Table 7.14 Regression model of firm value (CG)

	TOBINSQ2010		MBR 2010		TOBINSQ2011		MBR2011	
R Square	0.461		0.538		0.437		0.492	
Adjusted R Square	0.443		0.522		0.418		0.475	
Std. Error of the Estimate	0.732		0.681		0.740		0.701	
F Change	25.801		34.748		23.437		29.252	
Sig. F Change	0.000		0.000		0.000		0.000	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	0.057	.553	0.084	.872	0.078	.752	0.062	.630
CG	-0.196	-3.521***	-0.187	-3.597***	-0.164	-2.917***	-0.139	-2.607***
LNSIZE	-0.255	-4.190***	-0.272	-4.775***	-0.277	-4.489***	-0.339	-5.810***
ROA	0.497	10.230***	0.536	11.857***	0.45	9.168***	0.509	10.943***
STASHARE	-0.129	-2.091*	-0.07	-1.206	-0.096	-1.537	-0.024	-.413
LEGSHARE	-0.042	-.711	-0.027	-.486	-0.08	-1.332	-0.086	-1.516
FSHARE	-0.204	-2.800***	-0.195	-2.856***	-0.305	-4.151***	-0.233	-3.341***
CEODUALITY	-0.033	-.291	-0.083	-.780	-0.041	-.355	-0.032	-.291
BOARDSIZE	-0.095	-1.781*	-0.161	-3.238***	-0.042	-.774	-0.094	-1.845*
INDEPDIR	-0.017	-.343	-0.024	-.534	-0.051	-1.034	-0.027	-.580

*Significant at the 10% level (p<0.10) ** Significant at the 5% level (p<0.05) *** Significant at the 1% level (p<0.01)

Table 7.15 Regression model of firm value (SOCIAL)

	TOBINSQ2010		MBR 2010		TOBINSQ2011		MBR2011	
R Square	0.460		0.540		0.439		0.502	
Adjusted R Square	0.443		0.524		0.42		0.485	
Std. Error of the Estimate	0.732		0.680		0.739		0.694	
F Change	25.795		35.034		23.652		30.424	
Sig. F Change	0.000		0.000		0.000		0.000	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	.051	.493	.080	.838	.074	.716	.063	.644
SOCIAL	-.204	-3.518***	-.204	-3.766***	-.182	-3.103***	-.193	-3.506***
LNSIZE	-.252	-4.106***	-.264	-4.606***	-.269	-4.341***	-.314	-5.398***
ROA	.469	9.667***	.509	11.293***	.427	8.705***	.486	10.561***
STASHARE	-.106	-1.723*	-.049	-.847*	-.076	-1.226	-.006	-.103
LEGSHARE	-.027	-.451	-.012	-.209	-.067	-1.116	-.074	-1.318
FSHARE	-.216	-2.985***	-.207	-3.065***	-.314	-4.307**	-.236	-3.438***
CEODUALITY	-.032	-.278	-.086	-.804	-.041	-.360	-.039	-.357
BOARDSIZE	-.095	-1.787*	-.160	-3.233*	-.041	-.770	-.092	-1.818*
INDEPDIR	.001	.028	-.006	-.133	-.034	-.690	-.008	-.162

*Significant at the 10% level (p<0.10) ** Significant at the 5% level (p<0.05)*** Significant at the 1% level (p<0.01)

Table 7.16 Regression model of firm value (TIMELINESS)

	TOBINSQ2010		MBR 2010		TOBINSQ2011		MBR2011	
R Square	0.472		0.554		0.448		0.504	
Adjusted R Square	0.454		0.539		0.430		0.488	
Std. Error of the Estimate	0.724		0.669		0.733		0.693	
F Change	26.995		37.18		24.537		30.712	
Sig. F Change	0.000		0.000		0.000		0.000	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	.070	.691	.101	1.064	.092	.890	.076	.783
TIMELINESS	-.257	-4.297***	-.269	-4.852***	-.229	-3.776***	-.212	-3.693***
LNSIZE	-.226	-3.678***	-.233	-4.078***	-.246	-3.956***	-.305	-5.187***
ROA	.488	10.193***	.529	11.942***	.444	9.149***	.504	10.992***
STASHARE	-.136	-2.229	-.078	-1.355	-.103	-1.666	-.032	-.545
LEGSHARE	-.046	-.778	-.031	-.565	-.084	-1.407	-.091	-1.607
FSHARE	-.163	-2.223**	-.150	-2.187**	-.268	-3.601***	-.195	-2.783*
CEODUALITY	-.053	-.472	-.107	-1.017	-.060	-.530	-.052	-.484
BOARDSIZE	-.094	-1.791*	-.160	-3.284***	-.041	-.763	-.092	-1.835
INDEPDIR	.011	.227	.005	.110	-.026	-.520	-.003	-.066

*Significant at the 10% level (p<0.10) ** Significant at the 5% level (p<0.05)*** Significant at the 1% level (p<0.01)

Table 7.17 Regression model of firm value (PRESENTATION)

	TOBINSQ2010		MBR 2010		TOBINSQ2011		MBR2011	
R Square	0.452		0.532		0.427		0.487	
Adjusted R Square	0.434		0.516		0.408		0.47	
Std. Error of the Estimate	0.738		0.685		0.747		0.705	
F Change	24.901		33.99		22.493		28.658	
Sig. F Change	0.000		0.000		0.000		0.000	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	.056	.540	.084	.871	.073	.698	.061	.613
PRESENTATION	-.161	-2.799***	-.165	-3.104***	-.110	-1.889***	-.110	-2.003***
LNSIZE	-.274	-4.468***	-.284	-4.961***	-.304	-4.891***	-.354	-6.048***
ROA	.484	9.920***	.524	11.553***	.440	8.898***	.500	10.730***
STASHARE	-.101	-1.627	-.040	-.681	-.075	-1.188	-.005	-.087
LEGSHARE	-.037	-.618	-.022	-.392	-.075	-1.235	-.083	-1.442***
FSHARE	-.211	-2.881***	-.202	-2.939***	-.316	-4.260***	-.239	-3.412
CEODUALITY	-.036	-.313	-.088	-.817	-.037	-.321	-.033	-.299
BOARDSIZE	-.091	-1.684*	-.156	-3.119***	-.040	-.744	-.091	-1.780*
INDEPDIR	-.007	-.139	-.015	-.317	-.046	-.913	-.021	-.435

*Significant at the 10% level (p<0.10) ** Significant at the 5% level (p<0.05)*** Significant at the 1% level (p<0.01)

Table 7.18 Regression model of firm value (USABILITY)

	TOBINSQ2010		MBR 2010		TOBINSQ2011		MBR2011	
R Square	0.462		0.547		0.435		0.499	
Adjusted R Square	0.444		0.532		0.416		0.482	
Std. Error of the Estimate	0.731		0.674		0.742		0.696	
F Change	25.942		36.13		23.227		30.109	
Sig. F Change	0.000		0.000		0.000		0.000	
Coefficients	**B**	**t**	**B**	**t**	**B**	**t**	**B**	**t**
(Constant)	.045	.442	.076	.801	.067	.647	.056	.577
USABILITY	-.207	-3.622***	-.230	-4.355***	-.158	-2.721***	-.179	-3.288***
LNSIZE	-.235	-3.714***	-.234	-3.976***	-.268	-4.179***	-.307	-5.103***
ROA	.464	9.534***	.501	11.165***	.424	8.592***	.483	10.420***
STASHARE	-.122	-1.986	-.061	-1.060	-.089	-1.437	-.021	-.352
LEGSHARE	-.009	-.145	.011	.192	-.054	-.887	-.059	-1.038
FSHARE	-.194	-2.664***	-.182	-2.682***	-.301	-4.066***	-.219	-3.154***
CEODUALITY	-.024	-.210	-.078	-.745	-.031	-.270	-.029	-.269
BOARDSIZE	-.106	-1.994*	-.172	-3.519***	-.051	-.945	-.102	-2.016*
INDEPDIR	-.005	-.096	-.011	-.254	-.042	-.857	-.015	-.324

*Significant at the 10% level (p<0.10) ** Significant at the 5% level (p<0.05) *** Significant at the 1% level (p<0.01)

7.4.4 Discussion of the hypothesis test

Hypothesis H12 states that IFR and its components (total, content, corporate governance, social, timeliness, presentation and usability) of Chinese listed companies is positively correlated with the firm value. Surprisingly, in line with the results of univariate analysis, there was a significant negative association between IFR total score, content, corporate governance, social, timeliness, presentation, usability and the firm value 2010 and 2011 models. In addition, LNSIZE, FSHARE and BOARDSIZE had a negative effect on the MBR 2011, whilst ROA had a positive effect.

The results contradict some previous IFR studies conducted in other countries. Garay et al. (2013), Ezat (2010), Cormier et al (2009) and Silva and Alves (2004) found a positive relationship between IFR and firm value (Tobin's Q or the market to book equity ratio). Hunter and Smith (2009), Lai et al. (2010) and Rahman (2010) found a positive relationship between IFR and stock price. On the other hand, the results are in line with some previous disclosure studies. Hassan et al. (2009) found that mandatory disclosure has a highly significant but negative relationship with firm value (measured by the market/book ratio), while voluntary disclosure has a positive but insignificant association with firm value in Egypt. Botosan and Plumlee (2002) found that the benefits of increased disclosure are sensitive to the type of disclosure being made; positive and negative associations, as well as an absence of association, between different types of disclosure and the cost of capital were found.

In the case of China, Lan et al. (2013) found no evidence that extensive voluntary disclosures benefit public companies in China in the form of lower equity costs. Wang et al. (2008), who found no evidence of voluntary disclosure benefits to companies by reducing debt capital costs, obtained similar results. Wang et al. (2013) found that more voluntary disclosure does not create value for Chinese firms. Chen et al. (2014) found a negative relation between firm value and voluntary disclosure for firms that rely heavily on Ganxi (connections) for their value creation. In this study, in line with the results of previous studies, there was a significant negative association between IFR total score, content, corporate governance, social, timeliness, presentation, usability and firm value, as well as the 2010 and 2011 models.

One explanation is that higher value firms may choose not to disclose more IFR information if the benefits of disclosure are outweighed by the associated cost, such as

proprietary costs (Armitage & Marston, 2008, Healy & Palepu, 2001, Verrecchia, 1983). These costs include not only expense incurred when preparing and disseminating information but also the costs deriving from disclosing information that could be used by competitors and other parties in a way that is harmful to the reporting company. According to Verrecchia (1983), the higher the proprietary costs associated with the disclosure, the less negatively investors react to the withholding of relevant information; thus, it is less probable that companies will disclose information voluntarily. A significant negative association between IFR information and firm value suggests these costs are particularly relevant for IFR disclosure.

Another explanation is that firms might not disclose IFR because they perceive no benefit to investors. The Chinese information environment is a low information environment, and Chinese retail investors are less sophisticated than those in the developed economies. Therefore, the quality of information and the level of disclosure that relevant differ, and what is useful for the Chinese investor is more basic than that for investors in developed economies (Lam and Du, 2004). As a consequence, voluntary disclosure in China is generally associated with low marginal benefits, and there is little urgent need for Chinese firms wishing to use IFR to access outside resources (Chen et al., 2014); thus, high value Chinese firms are less likely to disclose IFR on their websites.

In this study, among other control variables, company size, the proportion of foreign shares and board size were negatively related to firm value, whilst ROA was positively related to firm value. This reflects the fact that in the Chinese context, larger companies with a higher proportion of foreign shares and with a larger supervisory board disclosed more information on their websites, which negatively affected their firm value. Companies that were more profitable had a positive effect on firm value. Although the results contradict the majority of IFR studies, they were nevertheless consistent with some studies in the Chinese context. Gunasekarage et al. (2007) evidenced firm size had a negative significant influence on Tobin's Q and market/book ratio by examining 1034 Chinese listed companies. Shan and Xu (2012) found that firm size had a negative and significant relationship with Tobin's Q in their model. Bai et al. (2004), who used three years of panel data to examine the relationship between governance mechanisms and the market valuation of list companies, found that smaller companies have a higher firm value as measured by Tobin's Q. Despite spilt share structure reform in 2006 and state

ownership decreased significantly, this reform was almost completed in 2008 in spit of state shareholders does not want lose control right in the industries (Wei and Geng, 2008), thus large state associated firms have less distance between ownership and control, this finding highlight the existence of agency problems in China, especially for larger companies.

At the same time, Leung (2009) conducted a corporate governance disclosure study in Hong Kong, with data collected from 258 firms over the 2003 to 2005 period. Empirical results show that voluntary corporate governance disclosure is positively and significantly related to market valuation (measured by Tobin's Q) for small firms. It may be concluded from this study that, by disclosing voluntary information on their websites, smaller companies enjoy the benefit of receiving higher market valuations. In contrast to Bai et al. (2004), it was found that having more shares held by foreign investors had a negative effect on market valuation. Shan and Xu (2012) found that foreign ownership had no impact on a firm's performance. Other control variables did not appear to affect firm value in the regression model. As with the current study, Shan and Xu (2012) also found that a number of factors, including ownership concentration, independent directors, board meetings and supervisory board size had no impact on firm performance.

In this study, board size was found to be negatively related to firm value. This reflects the fact that in the Chinese context, board size may not be able to affect the extent of any monitoring, controlling and decision making in Chinese firms. Prior studies show that large boards are less effective than smaller boards, due to free-rider problems. Bennedsen et al. (2008) and Yermack (1996) offer evidence that smaller boards are associated with high firm value. More specifically, when the board of directors is in the hands of state-owned larger shareholders, there is a serious insider control problem in Chinese listed companies (Wei and Geng, 2008). Furthermore, there are few professionals (lawyers, accountants and finance experts) on the corporate boards in Chinese firms, and almost no minority shareholder representation (Chen et al., 2004). As a result, board independence is highly compromised (Liu, 2006). Thus, it is likely that such boards do not effectively monitor management or enhance firm value.

7.5 Summary

The descriptive results of mean values of Tobin's Q in 2010 and 2011 all exceeded 1in this study, which shows that the resources of Chinese listed companies are used effectively. Similarly, the descriptive results of 2010 and 2011 mean MBR indicate that Chinese listed companies are efficient at asset utilisation. This also suggests there is future growth potential for Chinese listed companies. Both Mann-Whitney tests and t-tests are used to determine whether firm value is influenced by company size, the use of English-language website versions and by the inclusion of financial information on company websites. Surprisingly, the results indicate that on average, smaller Chinese listed companies that do not have English-language website version or financial information on their websites have a higher value than do the biggest companies who have English-language website versions and financial information on their websites.

Both univariate and multivariate analyses were performed to examine the effect of IFR and its components on firm value. As with the univariate results, after controlling for a number of variables, both the 2010 and 2011 models showed that the IFR total score had a significant negative impact on firm value. In addition, IFR content, timeliness, corporate governance and social responsibility had a negative effect on firm value. The irrelevance and negative impact of IFR on the firm value in this case highlights the need to examine regulation and reform in the Chinese stock market. Furthermore, the absence of the effects of corporate governance factors on firm value indicates that there is a need for improvement in institutions' corporate governance. As the Chinese stock market is developing rapidly, it is also hoped that as investors become more experienced, greater uptake of extensive voluntary disclosure will have benefits in terms of cost of equity in the future (Lan et al., 2013), which is therefore likely to increase firm value.

Chapter 8 Perceptions and attitudes toward the IFR of Chinese listed companies: results of interviews

8.1 Introduction

This thesis employs triangulation research strategy to strengthen the research findings, including methodological triangulation, data triangulation and theoretical triangulation. Chapter 6 analysed the factors leading to Chinese companies voluntarily disclosing IFR on their websites, by examining the quantitative data in the survey results. This current chapter has employed semi-structured interviews to identify additional factors influencing Chinese companies voluntarily to disclose IFR on their websites, and to establish the perceptions of companies toward IFR, along with any future incentives to improve IFR on their websites.

The interviews lasted approximately 60 minutes on average, with the shortest being approximately 40 minutes and the longest around 85 minutes. All interviews were transcribed and then organised into categories, depending on the themes and sub-themes of the interview guide. Each transcript has been given a clear identifiable code, and participants classified according to their web status into three categories: (1) Active and maintained websites with financial information (A1 to A 15); (2) Active and maintained websites but without financial information (B1 to B7); (3) Companies without active websites (C1 to C3).

The process of analysis has been presented and explained in Chapter 5. This chapter will examine the interview findings relating to the following: (1) the motivation for constructing and maintaining websites; (2) factors determining why some companies do not disclose financial reporting on their websites; (3) the reasons for companies deciding not to have a website; (4) perceptions of IFR; and (5) future implications for IFR.

Table 8.1 Background information concerning the interviewees

Interviewee code	Website status	Main business	Job title	Highest academic qualification	Internet experience
A1	Active with financial information on the website	Mining	Board secretary	MBA	7 years
A2	Active with financial information on the website	Manufacturing	IR officer	MSc in Marketing	10 years
A3	Active with financial information on the website	Banking	Senior officer in accounting department	PhD in Accounting	8 years
A4	Active with financial information on the website	Manufacturing	IR officer	MSc in Accounting and Finance	7 years
A5	Active with financial information on the website	Real estate	IR officer	BA in Finance	6 years
A6	Active with financial information on the website	Transport	Board secretary	MBA	11 years
A7	Active with financial information on the website	Insurance	IR officer	MSc in Finance and Banking	10 years
A8	Active with financial information on the website	Logistic and transport	Head of IT department	BA in computer science	8 years
A9	Active with financial information on the website	Manufacturing	Head of Marketing Department	MSc in Marketing	10 years
A10	Active with financial information on the website	Manufacturing	IR officer	MSc in Accounting	5 years
A11	Active with financial information on the website	Information and communication technology	Head of IT department	MSc in computer science	12 years
A12	Active with financial information on the website	Real estate	IR officer	MBA	8 years
A13	Active with financial information on the website	Energy	Board secretary	BA in Accounting with Marketing Management	6 years
A14	Active with financial information on the website	Manufacturing	IR officer	MSc in Accounting	9 years
A15	Active with financial information on the website	Manufacturing	Senior officer in accounting department	MSc in Finance	5 years
B1	Active with no financial information on the website	Social service	IR officer	MA in Accounting	8 years

B2	Active with no financial information on the website	Manufacturing	IR officer	MSc in Accounting and Finance	6 years
B3	Active with no financial information on the website	Wholesale and retailing	Head of Marketing Department	BA in Marketing Management	7 years
B4	Active with no financial information on the website	Manufacturing	Senior officer in accounting department	MSc in Finance	8 years
B5	Active with no financial information on the website	Manufacturing	Vice general manager	MBA	7 years
B6	Active with no financial information on the website	Retailing	IR officer	BA in Accounting and Banking	5 years
B7	Active with no financial information on the website	Real estate	Senior officer in accounting department	BA in Accounting	5 years
C1	No website	Manufacturing	IR officer	BA in Marketing	4 years
C2	No website	Retailing	Vice general manager	MBA	7 years
C3	No website	Manufacturing	Head of Marketing Department	MSc in Marketing	5 years
R1			Regulator	PhD in Finance	9 years
R2			Regulator	MSc in Economic	11 years

Note: Internet experience represents the length of time that interviewees using Internet as part of their working environment.

8.2 Factors determining whether a company adopts IFR

The first objective of this research is to examine the factors determining the financial information provided on Chinese websites. In Chapter 6, it was established that the results of the disclosure index analysis established the significant factors for the total scores disclosed on the corporate websites. These included: company size; industry type; big-4 auditor type; state share ownership; foreign share ownership; CEO duality; the proportion of independent directors. However, the R square for the total content model is 51.1%, implying that the 51.1% variation in the IFR content is explained by the explanatory variables. It is therefore of interest to identify the additional factors determining a company's choice to disclose IFR on its website. The results of the semi-structured interviews (Table 8.2) reveal that there are a number of additional factors that determine whether companies disclose IFR on their website. Each of these factors will be discussed in detail in the following section.

Table 8.2 Factors determining a company's adoption of IFR

Factors determining company adopting IFR	n	Percentage
Communication tools with investors and other stakeholders	8	32%
Timely information to investors	6	24%
Benefit of having a website	7	28%
Company's image and reputation	5	20%
Management decision	4	16%
Winning awards	3	12%

Note: The statistics in this table are based on the full group of 25 interviews.

8.2.1 Communication tools with investors and other stakeholders

In comparison to the traditional Investor Relations (IR) model, the use of the Internet can widen the reach of IR, particularly through its general accessibility as a communications channel. This gives a greater reach to IR through the automation of a number of its services (Rowbottom et al., 2005). A major advantage of web-based corporate reporting is that the communication possibilities go far beyond those achievable by traditional means. Technology and interactivity can be used to engage investors and enhance their experience through a variety of means, e.g. flash movies; videos of interviews with senior management; financial information downloads;

charting tools and feedback forms (Jeffrey, 2008). Kelton and Yang (2008) consider the Internet to be a unique information disclosure tool that encourages flexible forms of presentation and permits immediate, broad, and inexpensive communication with investors. 8 of the 25 participants (32%) noted that companies disclose their information on the Internet because they are able to use it as communication channel with investors and other stakeholders.

> *Our top priority is our investors. By setting up an interactive platform, such as a chat line and message board, through our websites, we can answer a lot of queries from our investors. Our company has quite a few staff members always working online. Any of our investors can get a response as soon as our staff are at work.* **(A6)**
>
> *It is one of our important duties to make sure that we keep our shareholders informed with regard to what's happed, what we are doing right now and what we are going to do in the future: our website fulfils this task.* **(A3)**
>
> *It is a convenient way to communicate with your investors, potential investors, analysts and even researchers. You can find out historical data dated back 4 or 5 years. We have the facility of emails, videos, e-journals, and a calendar.* **(A11)**
>
> *Investors can access our websites any time at all, and they can obtain information from anywhere they are, as long as they have an Internet connection. Our website also enables us to communicate with not just only domestic investors, we can communicate with foreign investors with ease, as well.* **(A1)**
>
> *It is the company's strategy to set up a website. We need to take advantage of current technology to have a dialogue with our stakeholders.* **(A7)**
>
> *Recently, our company started placing WEIBO on our websites, and the number of visitors increased significantly since then.* **(A10)**

IFR provides an efficient means for companies to improve communications with investors, decrease costs associated with distributing hard-copy information, and increase the frequency of information disclosures (FASB 2000). Agency theory addresses the problem of information reporting for assessing managerial behaviour where management holds private information and does not communicate. A possible explanation of the results of the interview is that managers provide additional

disclosures to shareholders on their websites in order to the reduce agency costs. A survey by Ashbaugh et al. (1999) has established that those firms engaged in online corporate reporting place greater emphasis on communication with potential and existing shareholders. According to FASB (2000), one of the potential motives for companies to provide financial information on the Internet is communicating with previously unidentified consumers of information. Similar results have been reported by White and Raman (2000), indicating that one of the purposes of constructing a website is to improve the information communicated to company stakeholders. Furthermore, Adams and Frost (2006) propose that website development is driven by the desire to provide a mechanism for communication.

8.2.2 Timely information to investors

The key advantages of the Internet have been identified as consisting of speed and cost. The timeliness of IFR refers to the immediacy of information. Wagenhofer (2003) notes that:

> *By placing financial information on the firm's websites, users can search, filter, retrieve, download, and even reconfigure, such information at low cost in a timely fashion. The Internet allows for hyperlinks, search engines, multimedia and interactivity. The Internet opens up new disclosure opportunities.*

Timeliness refers to the speed of presenting financial reports in order to promote transparency (Lymer and Debreceny, 2003). Timeliness of information disclosure is not only a matter of investor decision-making, but can also reduce the opportunities for internal staff to maximise their use of insider information to exploit any opportunity for insider trading due to time differences. Investors require true, accurate, complete and timely information, and listed companies should take effective measures to ensure their websites disclose accurate and timely information. The interviewees were aware of the implications:

> *I believe that the current constraint of some listed companies is the speed of site content updates. If listed companies can accelerate the frequency of website update, it can sustain communication with investors.* **(A1)**

Elliott (1992), Wallman (1995) and ICAS (1999) all call for greater disclosure and more frequent online reporting. IFR improves the efficiency of capital markets through the rapid dissemination of information to financial markets. Such timely information may have a significant influence on decisions made by both potential and existing investors,

as well as other stakeholders (Hanafi et al., 2009). 6 of the 25 interviewees (24%) stated that timely information is one of the factors leading to the company's decision to disclose information on their website. The interviewees in this current study stated that:

> *Our drive to set up a website is in order to deliver up to date information about our company, ideally in a timely manner. The frequency for updating a website is a bottleneck of developing the website and the complicated procedures result in slow updates. It would better if our company could shorten the approval level of content updates.* **(A4)**
>
> *We consider that our website is a way to make everybody receive the information at the same time. It is the easiest and quickest way to distribute, not only financial information, but also company announcements and press releases.* **(A 15)**
>
> *Any information we need to post on the Shanghai Stock Exchange website, we will afterwards post on our own websites straight away, then the information can be accessible by everyone… Our company websites are normally updated twice or three times a day***. (A 10)**
>
> *If we look from user's point of view, timely information is crucial for users to make decisions. We are trying to assist users as much as we can, and our website helps. It makes information available in more effective ways for users.* **(A3)**

The interview results support signalling theory. The guidelines on the Shenzhen Stock Exchange emphasise that: "listed companies should update websites with current information. There should be a significant distinction between current and historical information, and error messages should be promptly corrected to avoid misleading investors" (CSRC, 2004). Signalling theory has been used to explain separation between ownership and control, and the motivation of managers to disclose additional information in response market pressure (Ross, 1979). By providing more information in a timely manner, managers signal to shareholders the firm's financial reporting quality, which can be an easy method for distinguishing themselves from others in the marketplace.

8.2.3 Benefit of having a website

A key driver for Internet reporting is the cost savings resulting from the cessation of the production and distribution of hard copy reports (Xiao et al., 2005), and therefore email distribution is markedly cheaper. The advantages of the Internet for financial reporting are its cheapness, speed, dynamism and flexibility (Lymer, 1999). Haniffa and Ab.Rashid (2004) state that IFR can be cost effective, fast, flexible in format, and accessible to all users within and beyond national boundaries. A small number of the interviewees remarked that:

> *It is obvious that we have reduced the cost of printing and posting paper reports. On top of that, if any shareholders request annual reports they can always go to our websites. But that is not the only reason we disclose information on our websites.* **(A7)**
>
> *We do see the physical costs reduced by not sending as many as reports as before (we had a website), at the same time other costs are incurred by constructing and maintaining our websites. We are not certain when, and where, benefit might come from. However, we understand the importance of disclosure and transparency.* **(A4)**
>
> *It is the cheapest and easiest way to disseminate the company's information.* **(A13)**
>
> *By disclosing information on our website and making us visible, we hope to attract a larger range of investors, and in the long run our company will benefit.* **(A8)**
>
> *One of the great benefits of our websites is that we can attractive more investors and more customers.* **(A9)**

The results of interviews support the cost and benefit approach. Gray and Roberts (1989) note that disclosure choices will be determined by managerial assessment of the costs and benefits of alternative disclosure methods. Companies may also increase their voluntary disclosure in order to raise capital more cheaply on the markets (Marston, 1999). FASB (2000) suggests that reducing the cost and time it takes to distribute information is a reason for companies to provide financial information on the Internet. Interviews conducted by Ettredge et al. (2001) have established that IR directors view the website as a means of reducing administrative costs, and that online disclosure helps

provide a common level of disclosure to all stakeholders. The UK IRS (Investor Relations Society) states that website outlay and maintenance costs of £20,000-30,000 per annum could be quickly recouped, with the marginal costs of distributing online financial reports being zero, compared to an estimated £5 on average to send a hard copy of a financial report (Beattie and Pratt, 2001). However, Jones et al. (2001) report that the cost savings from distributing information online may not be a motivator for operating an IR Website, due to the fact that such gains can be eroded by the costs of processing the greater requests for information generated by the website.

8.2.4 Company's image and reputation

Companies have the potential to manage their information disclosure and improve their corporate image by emphasising positive information and placing their own interpretation on anything that has the potential to be negative. Remarks provided by interviewees regarding a company's image and reputation associated with web construction include:

> *We are the largest company in our industry. It is unbelievable that we would not have a website. How can we let investors realize that we are number one in this field? We can broadcast it through our website.* **(B3)**

> *Our company website may be the first contact with our investors and customers. The quality of our website is a clear indicator of our company. They can see our vision and our mission on our website. We also have videos, flashes, adverts…. we hope the efforts we have made to maintain our website would impress our investors and customer at the first sight and allow them gain more confidence in our company.* **(A14)**

> *The industry we are in is quite competitive. We always have to do better, and that including everything… Our website is a window to show our ability and what we have achieved.* **(B6)**

Signalling theory suggests that higher quality firms will use the Internet to disseminate 'positive' accounting information as widely as possible (Craven and Marston, 1999). Adams and Frost (2006) suggest that corporate image is the most important driver in developing a corporate website. Ali Khan and Ismail (2012b) have examined the factors that influence companies in Malaysia to engage in IFR, with the results of the questionnaire concluding that enhanced corporate image is the key factor. Ali Khan and Ismail (2012a) examined bank officer's views of factors that determine whether

companies engage in IFR; their analysis indicates that enhanced corporate image is the important influence for companies in Malaysia to practice IFR. AbuGhazaleh et al. (2012) noted that perceptions of corporate image and reputation were highlighted by a number of interviewees as influencing website adoption in Jordon.

8.2.5 Management decision

Gowthorpe (2004) states that corporate managers generally use their experience to imagine the shareholder's needs. The beliefs of the senior executives, in particular, bring a strong influence to bear. Managers are accustomed to visiting their competitors' websites to gain new ideas about the information content. Management strategy has an important influence on the adoption of Internet financial reporting and disclosure. A number of the interviewees commented that:

> *It is up to our top management team, if they make decisions on constructing a website and disclose financial information on our website, they must know there is a need to do so.* **(A6)**
>
> *There is another factor need to be taken into consideration: our chairman makes all the decisions.* **(B2)**
>
> *The average age of our company's staff is 32. We have a very active team…. our management team loves advanced technology. They made a decision to construct a website, and that's why we were one of the very first companies in our field to do so… our director has his own WEIBO on our website***. (B5)**

From the above interview results, it can be concluded that the decision of management is one the factors that influences companies to disclose information on their website. The results are consistent with agency theory that management attempt to reduce the high agency costs associated with information asymmetry between market participants by disclosing IFR on their websites. Similarly, White and Raman (2000) note that "in almost all the organisations in the study, the decision to develop a website was made by one person, usually the CEO or Marketing manager." Aly (2010) notes that management approach, strategy and mentality affect voluntary adopt Internet financial disclosure and reporting. Ali Khan and Ismail (2012b) conclude that directors' desire to engage in IFR is a factor in influencing companies to practice IFR. AbuGhazaleh et al. (2012) also suggest that the decision to adopt, renew, or update websites crucially

depends upon whether or not such a decision is congruent with the beliefs of senior management.

8.2.6 Winning awards

The China Securities Times and the Securities Times Network set up the 'China Listed Companies Excellent Website Award' campaign in 2008. The selection of the outstanding Chinese listed company's websites runs annually, and is a highly popular event for listed companies. A professional research team evaluates the company websites first, by undertaking comprehensive study visits and basing results on a standard system. Descriptive statistics are obtained, followed by the process of determining the ranking through the collection and analysis of each site's composite score, based on the score of professional public online voting, plus the selection of experts. There are over thirty specific evaluations, mainly on the following aspects: 1) Timeliness of information disclosure: this measure is to examine whether the company website publish their mandatory information in a timely manner, and whether they update their company's information, media reports and other relevant information. 2) Information disclosure initiative: this measure examines whether the company's disclosures include further voluntary information. 3) Adequacy of information disclosure. 4) Fairness of information disclosure. 5) Interactive ability of company's websites. 6) Functionality of company's website. 7) The speed of the company's website. 8) The convenience in using the company website. 9) Openness of the company's website. 10) The company website's multimedia applications.

Once the score been finalised, the shortlisted companies are published in the 'Securities Times', one of SEC key papers, followed by the Securities Times Online (www.stcn.com), along with co-media releases of the reports of the listed companies. Finally, the lists of those who have won awards are announced in 'Securities Times' and 'Securities Times News Network', along with promotion in a dedicated portal.

> *Our company has won the award of 'Most popular listed company's website to investors" in 2009 and 2010: we are very proud of our website quality. It not the main reason why we construct and maintain our website, but it is a bonus* **(A4)**

> *Some media (such as Securities Times) organised the best websites campaign, which establishes and demonstrates the excellent examples of listed companies' websites. They have an award list for the most popular listed companies for*

investors, the Best Investors Relations Interactive Platform Website, Best Innovative Application Website… As our company is a technology oriented company, we hope we can win next year's competition in the category of Best Innovative Application Site… **(A11)**

The results support institutional theory, which suggests that online disclosure may be driven by a desire to meet the expectations of social or capital markets (Rowbottom, 2002). The coercive isomorphic pressures from the China Securities Times and the Securities Times Network have proved an active driving force for companies to adopt their IFR practices to bring these into line with the expectations and demands of its powerful stakeholders. The results also support signalling theory, which determines that companies seek to distinguish themselves in the market by providing excellent websites.

Awards for the Best Investor Relations Websites are made in the United States by Investor Relations Magazine (www.irmag.com) and in the United Kingdom by the Investor Relations Society (www.ir-soc.org.uk). The results are consistent with research conducted by a number of scholars. A survey conducted by Ali Khan and Ismail (2012b) reports that winning awards is the one of the factors that explains the reasons Malaysian companies disclose information on their websites. Similarly, Khan and Ismail (2012a) conclude that the views of bank officials determined whether companies engaged in IFR, with their analysis indicating that winning awards is important factor in the decision of Malaysian companies to practice IFR.

8.3 Factors influencing companies who did not disclose financial information on their websites

The descriptive analyses of the survey in Chapter 6 revealed that, of the original sample of 300 companies, 284 (98%) have accessible websites. From the final sample of 284, approximately 190 (67%) had disclosed their current year balance sheet, along with income and cash flow statements, on their websites. 179 companies (63%) disclosed their past year's balance sheet and income statement. In this section, the results of the interviews (Table 8.3) identify the reason a number of companies set up a website but did not use it to disclose financial information.

Table 8.3 Factors influencing companies who did not disclose financial information on their websites

Factors influencing companies who did not disclosed financial information on their websites	n	Percentage
Financial information already exists through other media	4	57%
Litigation costs	2	25%

Note: The statistics in this table are based on the 7 interviews

8.3.1 Financial information already existing through other media

The investor relation officer of a company, which does not provide financial information on its websites, stated:

> *You can find out financial information on the Shenzhen Stock Exchange website and Securities Times, that's mandatory. We feel it a more trustworthy source of financial information from creditable media (for users).* **(B6)**

Another interviewee noted that:

> *Our company is the parent company of a group of subsidiary companies. If you can find …. the company's website of one of our subsidiary companies, all the financial information is available there…. There is no need to disclose financial information twice.* **(B2)**

The results accord with the interview results of AbuGhazaleh et al. (2012), who state that: "*Our annual reports are already on the JSC's website"*. Companies are of the opinion that they already have their information available on the Stock Exchange website (and other media) and therefore they feel it is unnecessary to disclose it on their own website. Ali Khan and Ismail (2012a, 2012b) report that: a view that "there are alternative forms of obtaining information" is a further reason for Malaysian companies choosing not to disclose information on their websites.

8.3.2 Litigation costs

As pointed out by two of the interviewees, litigation costs are another reason why companies choose not to disclose information on their websites. Elliott and Jacobson (1994) suggested that the legal actions taken against managers for inadequate or

untimely disclosures could encourage firms to increase voluntary disclosure. One interviewee noted:

> *I understand that managers may choose to disclose less information on their websites for reducing the risk of litigation and avoid legal sanctions*. (R1)

Another interviewee stated:

> *Unlike in the USA, the SEC has issued Safe Harbour Provisions to encourage managers to provide more voluntary disclosure. There is not a similar regulation exist in China. The CEOs are reluctant to make more disclose than mandatory required by law because by the nature of certain disclosure, they could be wrong*. (R2)

One interpretation of this evidence is that managers in China consider their costs and benefits in terms of IFR practice. Thus, if the cost of disclosing IFR is potentially outweighed by the benefit, then managers will be reluctant to voluntarily disclose information on their websites.

8.4 Factors influencing companies without their own websites

The descriptive analyses of Chapter 6 established that, of the original sample of 300 companies, 284 (98%) have accessible websites and 6 have no website. In this section, three interviewees explain the factors that influenced these companies not to establish their own website (Table 8.4). In order to understand the factors that might affect the decision not to have a website, three companies were approached.

Table 8.4 Factors influenced companies did not have their own websites

Factors influencing companies that did not have their own websites	n	Percentage
No legal requirement	1	33%
Not a priority of management	2	66%

Note: The statistics in this table are based on the 3 interviews.

8.4.1 No legal requirement

There are currently three guidelines promoting listed companies to disclose financial information on their websites, these include: (1) Listed companies and investors relations guidelines (published by the China Securities Regulatory Commission); (2) The Shanghai Stock Exchange listed company investor relations management self-

discipline convention; and (3) The Shenzhen Stock Exchange listed companies investor relations management guidelines. However, there is no mandatory requirement for companies to disclose information online, as pointed out by one of the interviewees:

> *There is no legal requirement to publish any information on the company's website. I know there are some guidelines that companies should have a disclosure on their own websites from the Shanghai Stock Exchange and the Shenzhen Stock Exchange, but it is not mandatory. We publish our reports on the Shanghai Stock Exchange and in the newspapers. We have met all the mandatory requirements from the Stock Exchange.* (**C 3)**

These results agree with those of Ali Khan and Ismail (2012b), who examined the factors that influence companies in Malaysia to engage in IFR. The results of their questionnaire advised that 'no legal requirement' is the key factor influencing companies not to practice IFR. Ali Khan and Ismail (2012a) identified that a the views of a bank officer concerning the relevant factors determined whether or not companies engaged in IFR, and their analysis indicated that 'no legal requirement' is an important factor in Malaysian companies failing to practice IFR. Moradi et al. (2011) conclude that a lack of legal requirements set by the Stock Exchange Organisation for companies' release of information via the Internet is the main reason for companies in TSE failing to disclose information on their websites. AbuGhazaleh et al. (2012) suggest that the perceptions of the interviewees were that the Jordanian securities law, as well as corporate law, do not require them to have a website or to use it to disclose any financial information.

8.4.2 Not the priority of management

Two interviewees all agreed that their companies will create a website in the future, and that the reason it has not yet been created is a surplus of other matters to deal with, either internally or externally, leading to management being forced to prioritise. One interviewee noted that:

> *You may know that our company just went through an acquisition process, so we have a lot of others things to sort out at the moment. Once it has been done, we will consideration the re-construction of our own websites.* (**C1)**

Another interviewee states that:

> *It is on our agenda to build our website, we are just not fully ready yet to do so. Our company is very young.* (**C3)**

From the above comments, it can be concluded that it is the intention of these companies to build up their websites in the near future. They identify having too many other business events to deal with at present, but that the future building of their website is on their agenda.

8.5 Perceptions of IFR by companies

Although interviews were primarily conducted to understand the factors influencing companies to build a website, reasons also emerged as to why some companies did not disclose financial information on their websites or did not have a website. The third objective is to investigate the perceptions of IFR by Chinese listed companies. This section forms an analysis of the following issues discussed during the interviews (Table 8.5): (1) the cost of construction and improving a website; (2) the additional costs for the companies to disclose information online; (3) the languages used to construct a website; (4) the format companies use to disclose financial information and security of information, as discussed below.

Table 8.5 Perceptions of IFR by companies

Perceptions of IFR by companies	n	Percentage
Cost of Construction websites and upgrade websites	10	40%
Other costs that could occur with regard to IFR	2	8%
Updating the website	6	24%
Languages used on websites	4	16%
Presentation formats of financial information	6	24%
Integrity of information	5	20%

Note: The statistics in this table are based on the full group of 25 interviews.

8.5.1 Cost of construction and upgrading of websites

8.5.1.1 Cost of construction of websites and upgrading of websites

Setting up a company's website and upgrading it to apply current technology is an additional cost for listed companies. Some of the interviewees revealed the figure they had spent on constructing and upgrading their website, while a small number mentioned the cost incurred when constructing their own websites:

> *It cost our company nearly RMB 5 million Yuan (£500,000) to construct our website. We host a telecommunication trunk room, and we take responsibility for*

maintaining and updating our website… we have 8 staff members doing the job currently. **(A3)**

Setting up our website only cost us about RMB 100000 Yuan (£10,000). We rent a space server and outsource related information to an information services company, who are response for the maintenance…. we do have some concerns about the safety of the website. **(B7)**

We spent about RMB 330000 Yuan (£33,000) on building up our website **(B2)**

Interviewees also discussed their plans to update their websites within the next few months:

We have a plan to improve our website. It will involve changing the content. The funding is available now, and it is about RMB 450000 Yuan (£45,000). **(A6)**

Our users are quite happy with our website… Yes, we are going to upgrade our website, but it's just minor work, it won't cost more than RMB 2000 Yuan (£200). **(B5)**

Recently, our company received some valuable feedback with regards our website… it will be foolish not to adopt the recommendations. We need to discuss it with our managers. **(A13)**

8.5.1.2 Other costs that could be incurred with regard to IFR

One interviewee raised the issue of additional cost, and concerns about losing competitive advantage by disclosing sensitive information on their website:

It is not only about the cost of constructing and maintaining our website. We have to think about our competitors… we do not want them to know everything we do. **(A12)**

This finding confirms that proprietary costs are relevant for IFR reporting. Proprietary Costs Theory (Verrecchia, 1983; Wagenhofer, 1990) states that companies limit voluntary disclosure of information to the financial market because of disclosure-related costs (i.e. proprietary costs). These include not only the costs of preparing and disseminating information, but also arise when disclosing information makes the reporting company vulnerable to its competitors. Research conducted by Moradi et al. (2011) also confirmed that the possibility of rivals' accessing the company's major

information through a website was one of the reasons companies are unwilling to disclose information on their websites on the Tehran Stock Exchange (TSE).

8.5.2 Updating the website

The key advantage of IFR is instant access and the ability to access up-to-date information. The company is able to carry out regular maintenance of their own website in order to provide continuous updates and reflect new information for users. Interviewees made the following comments:

> *Our website has been updated a few times a day.* **(A3)**
> *Normally we do (update) it daily.* **(A8)**
> *It depends, if we have important news to release, we update it a few times a week, otherwise we update it weekly.* **(B2)**
>
> *For every piece of information we wish to post on our website, we need the approval from the leadership of our company, such as the major shareholder department and local government. That slows down the speed of updating our website***. (A7)**

In China, local government plays a key role in state-owned company management, and therefore company managers require the consent of a government body to release information to the public when updating their website. The results of the interviews are consistent with the empirical analysis in Chapter 6, which suggested that: (1) the total disclosure of information on a company's website is negatively related to the proportion of state owned corporate ownership; (2) the timeliness of the disclosure of information on a company's website is negatively related to the proportion of state owned corporate ownership. Yap and Saleh (2000) suggest that timeliness of reporting is one of the issues in IF reporting in Malaysia, and that more frequent reporting would need a real-time entry.

8.5.3 Languages used on websites

As revealed in Chapter 6, 207 companies of the final sample of 284 companies (73%) used both Chinese and English on their website, and 14 companies used multiple languages. Interviewees gave their opinions in relation to the language used on their website:

*There are two language used on our website: Chinese and English. English is a globally used language, so it is very important to use it. (***A11)**

Actually, we use Chinese, English and Russian…. we have to think about our customers when we design our website; our customers mainly speak those three languages. **(A6)**

I know a lot of companies use both Chinese and English. Our company simply uses Chinese at the moment. Maybe in the future we will add in English, when our business is expanding. **(B5)**

Davey and Homkajohn (2004) established that 34 Thai company websites (92%) could be read in English. This was not surprising, since a large proportion of Thai companies are export-oriented and, as foreign investors are important shareholders in many companies, only 3 companies used Thai alone. Similarly, research undertaken by Malhotra and Makkar (2012), found that the majority of companies examined in the Indian corporate sector provided information only in English. The results of the interviews emphasise that Chinese listed companies are willing to adopt English or multiple languages on their websites, in order to meet stakeholders' requirements.

8.5.4 Presentation formats of financial information

Interviewees discussed the formats they used to disclose financial information on their websites. In Chapter 6, of the 190 companies disclosing financial information on their websites, 176 companies used PDF format, and 48 used HTML format, with a number of companies using both. In the 2010 survey, no companies disclosed XBRL format financial information on their website. Interviewees explained the format they selected and their reasons:

Our company posts in both PDF and HTML formats to meet the users' requirements; we only post XBRL on the Shanghai Stock Exchange website. **(A14)**

XBRL is very useful, but at the moment PDF is more popular with most users, it is easy to print out. **(A2)**

*A lot of our investors prefer to use the PDF format, as it is safe. It is hard to change, thus it is much more secure***. (A11)**

You can always find XBRL format reports through the Shanghai or Shenzhen Stock Exchange website. **(A7)**

Allam and Lymer (2003) suggest that using HTML may result in tables and pages being spilt. PDF is a commonly used standard for the distribution and exchange of electronic documents, as it uses a universal file format that preserves the attributes of the source paper documents (Adobe, 2004). Adobe software can also be used to preserve the integrity of PDF files and has been increasingly used, due to the fact that it is convenient for preparers (Trites, 2005).

The choice and use of website financial format is mainly PDF, with companies posting in XBRL format on Chinese Stock Exchange websites. This can be considered a typical application of innovation diffusion theory, having passed through the five stages identified by Roger (1995), e.g. knowledge; persuasion; decision, implementation; and confirmation.

8.5.5 Integrity of IFR

The integrity of IFR is therefore inferred from (i) the security of web-based financial information, (ii) senior management's knowledge of external audit procedures that address IFR risks, and (iii) the use of legal disclaimers regarding the validity of web-based financial information (Smith and Pierce, 2004). A further issue is web security. When it comes to IF reporting, the reliability of information (in addition to its completeness and faithfulness to that which it purports to represent) is dependent upon the existence and implementation of effective security measures (Trites, 1999; IASC, 1999).

If information is not secure, hackers can alter financial data and the firm's name might then be associated with misleading information. Weak website security can also have a negative influence on companies who allow their sites to be hacked. FASB (2000) states that three issues of particular concern to the governance of IFR relate to the security of information and the use of hyperlinks.

It is one of our concerns, the security of our websites. **(A4)**

I have heard a few stories about companies' websites being hacked and there was some negative impact on those companies. We are trying our best to strengthen the security of our website. **(A9)**

*Our company is relatively small. We do not have the ability to build our own team to support us to maintain the website technologically. Another choice is that we could set up a website by outsourcing information to a services company; however, we would have concerns about the security of the website… we would not be in control of the situation***. (B5)**

Misleading information is another problem with IFR. Investors in Chinese stock are not as mature as those in other developed countries; some information companies post on their websites can easily mislead them. **(R2)**

The maintenance and security of websites (particularly those sections containing financial information) can be costly. IFR requires additional consideration in terms of ensuring appropriate authorisation within organisations to edit web-based information, along with appropriate controls to prevent unauthorised access from within, and outside, the organisation (FASB, 2000; Trites, 1999; Lymer, 1999). Ali Khan and Ismail (2012a, 2012b) studied the perceptions of Malaysian companies, concluding that security issues were the disadvantages of IF reporting. Yap and Saleh (2011) also concluded that website security is one of the issues of IFR. In addition, the directors are responsible for the maintenance and integrity of the website and ensure the validity of online financial data. This issue also been highlighted by some interviewees as one of their concerns when it comes to IF reporting in China.

8.6 Future implications on how to improve IFR

The interviewees listed the future implications of ways of improving IFR (Table 8.6): New rules and regulations (4); Completeness of information disclosed on the website (6); Built information and an interactive platform on the website (6); Accelerate the content update frequency (5); The development of mobile terminals (3)

Table 8.6 Future implications on how to improve IFR

Future implications on how to improve IFR	n	Percentage
New rules and regulations	5	19%
Completeness of information disclosed on the website	6	22%
Built information and an interactive platform on the website	6	22%
The development of mobile terminals	3	11%

Note: The statistics in this table are based on the full group of 27 interviews.

8.6.1 New rules and regulations

This section discusses the ways in which IFR can impact on the regulatory framework. There are two different opinions of the new legal rules and regulation with regard to IFR. One interviewee proposed that new rules and regulations would promote the development of IFR, however another felt that IFR should not be made a legal requirement:

> *New rules and regulations (in relation to IFR) can help.* **(A10)**

> *It is up to the standard setters. At the same time, I do not think it easy to operate… it is a complicated process.* **(B2)**

> *It will be very useful to set up guidance or a framework to direct IFR practice.* **(R1)**

These interview results are consistent with the research of Xiao (2002), in which a number of contrasting views were identified concerning the extent to which additional regulations will be necessary. Participant A believed that no regulation would be necessary, while another expected that there would be a need for new regulations, due to the fact that the Internet represents a radical change in the commercial process, rendering the governmental regulatory superstructure less effective (Xiao, 2002). According to Yap and Saleh's (2011) research, they interviewed 10 preparers of Malaysia companies. Some respondents expected a need for new regulations, others believed no regulation would be necessary, because they assumed a company would present audited or reviewed information only on the webpage.

8.6.2 Completeness of information disclosed on the website

A small number of interviewees suggested that complete information should be disclosed on a company's website. They felt that most companies display mandatory disclosures, but not many voluntary disclosures:

> *I believe that an excellent website should provide a sufficient amount of information to investors.* **(A2)**

> *You can easily find products on some companies' websites, but it hard to find sales data and customer profiles from most companies' websites.* **(A8)**

There has been a great improvement of investor relation sections on most companies' websites recently. However, one of the important items that is always missing is a calendar of future financial events. **(A1)**

Some companies only disclose positive news **(B3)**

This is inconsistent with an analyst's view of IFR in Greece (Demos, 2008):

More information is needed, such as sales breakdown, EBITDA breakdown, financial terms, strategy, more updates on the industry and the sector, etc.

Graham et al. (2005) suggest that some companies are prone to releasing good news faster and to delay bad news, in the hope that the company's status will improve.

8.6.3 Building information and an interactive platform on the website

The Internet allows one-way, two-way and multi-way communications, and permits the development of highly interactive applications. This offers the possibility of interactive users providing corporate information (Xiao, 2002). Chinese listed companies have recognised the importance of an interactive platform. In 2011, over 100 companies displayed WEIBO on their website's front-page.

I hope that in future a listed company website can become the most authoritative and comprehensive corporate disclosure of a relevant information platform, including the ability to collect and reproduce company-related information for investors. And also that websites can become an important platform for online communications. **(A3)**

It is a trend that more and more investors will use the websites as the platform to obtain more useful information and make rational investments. Adopting use-friendly technology on websites is of great importance. **(A12)**

We suggested that companies should pay attention to the rapid growth of micro blogging (WEIBO) and other information-sharing platforms. The future of listed companies' micro-blogging will become an important platform for interaction with investors. It could help companies to share disclosures of information and news with investors. **(B1)**

Listed companies' websites should increase their interaction with investors and make use of more new techniques for investors… I did not see a lot of companies disclose corporate webcast events. **(A6)**

The web allows users to interact with corporate databases in an interactive manner that would be impossible in a print-based environment (Debreceny et al., 2001). Ryan (2010) states that the new wave of popular social networking applications (such as Facebook and Twitter) has implications for IFR, as corporations consider new ways of communicating with stakeholders. Chinese listed companies could fully utilise the potential of the technology for providing corporate accountability to their stakeholders.

8.6.4 The development of mobile terminals

An increasing number of mobile users in China gain access to company information through mobile technology rather than traditional PCs. At the end of June 2011, there were three billion mobile users in China, with an increasing number of individual investors using mobile networks to trade shares. A number of interviewees noted that listed companies should gain the relevant knowledge, and actively develop the use of mobile Internet functions. Currently, the first priority is to improve the company's website, with the second step being to consider the development of mobile interactive methods.

I believe that, compared to the traditional PC, mobile phones are more convenient, and make it faster for investors to obtain information from companies. This new era has brought opportunities and challenges for investor relation departments to update websites, including interactive feedback. **(B4)**

For the information on our company website…. we can also consider future mobile applications in order to expand its functionality. **(A5)**

Consistent with the interviewees' views concerning mobile phone usage in the future, Al-Htaybat et al. (2013) also suggest that smart mobile devices can be seen as the future revolutionary terminal of financial reporting. This is due to the nature of mobile technology providing different levels of user accessibility, interactivity and research ability, and thus the potential to create real-time communication.

The emergences of new technological innovations, along with the rapid growth of the Internet as a network communication tool, have significantly influenced corporate financial reporting practices. They have also increased the pressure on corporations and

have raised the challenge to provide and maintain relevant information to meet the needs of interested users (Al-Htaybat, 2012). The ongoing technological developments create the potential to provide a future revolutionary terminal that will transform current corporate reporting dissemination practices to smart mobile reporting. This is due to the entrepreneurial nature of these technologies, which provide users with differing levels of accessibility, interactivity and research ability (Al-Htaybat et al., 2013). For example, the Institute of Chartered Accountants in England and Wales (ICAEW) has offered a Smartphone application providing a range of features, such as financial news reporting with regular updates, and a standard changes tracker tool. Thus, it provides the latest information, news, and standard changes to handheld devices in an easy-to-use format (www.icaew.com).

8.7 Summary

This chapter has presented the results and framework of the major themes and the subjects covered in the interviews. There has been an examination of the qualitative factors leading to Chinese listed companies disclosing information on their websites except for financial information, along with reasons for failing to construct a website. The perceptions and future implications of IFR have also been discussed.

The findings of the interviews established a number of factors leading companies to engage with websites. These include: as a communication tool with investors and other stakeholders; to create timely information to investors; to improve the company's image and reputation; as a result of management decisions; to win awards. These results support the propositions of the following: innovation diffusion theory; institutional theory; signalling theory; and cost and benefit hypothesis.

Three factors support innovation diffusion theory: 1) as a communication tool with investors and other stakeholders; 2) for business applications; and 3) for management decisions. Innovation diffusion theory suggests that management is influenced by the perceived benefit of new technology to communicate with investors and stakeholders, as well as business applications. Those evidence supports that support of senior management is essential for the successful implementation of new technologies. Factors supporting institutional theory include the ability to give timely information to investors, and winning awards. The isomorphism pressures created by Shenzhen Stock Exchanges, and other stakeholders, were active forces for companies voluntarily placing timely disclosures on their websites. This supports the view that a company is adopting

its existing IF corporate reporting practices to bring them into line with the expectations and demands of its powerful stakeholders.

Signalling theory suggests that higher quality firms will use the Internet to disseminate 'positive' accounting information as widely as possible, along with firms seeking to distinguish themselves in the market. Companies signal themselves by providing high quality websites to enhance their image and reputation, or in order to win an award in a competition. Prior research notes that disclosure choices will be determined by managerial assessment of the costs and benefits of alternative disclosure. The interviewees are aware of the benefit they could achieve by disclosing this information on their websites in China.

In addition, financial information already available through other media is the factor influencing companies not to disclose financial information on their websites. A current lack of legal requirements, combined with management priorities, is factor influencing companies who do not have their own websites.

Interviewees discussed the following: (1) the cost of constructing and improving websites, and the fact that additional costs could be incurred by companies to disclose information online; (2) the languages used to construct website; (3) the format used by companies to disclose financial information, and security of such information. One interviewee raised the issue of additional cost, and a concern about losing competitive advantage by disclosing sensitive information on their website. This result confirms that proprietary costs are relevant for IFR. These costs include not only the costs of preparing and disseminating information, but also those resulting from disclosing information which may be used by competitors (and other parties) in a manner harmful for the reporting company. Companies were not prepared to disclose more information on their websites because of the proprietary costs associated with the disclosure that might occur in the future.

Additionally, interviewees suggested a number of future means of improving IFR, including: (1) A need for new rules and regulations relating to IFR. (2) A need for companies to improve the quality of IFR, i.e. the completeness of the information disclosed on the website; placing information and an interactive platform on the website; accelerating the content update frequency and the development of mobile terminals. These suggestions will assist future improvements in IFR development for Chinese listed companies.

Chapter 9 Conclusions, Limitations and Further research

9.1 Introduction

This study has sought to further understanding of voluntary disclosure, specifically IFR, on the Chinese stock market. Three objectives were addressed: (i) examining the provision of financial information on Chinese listed companies' websites and factors determining the financial information given on those websites; (ii) examining the economic consequences of IFR on companies' values in China; and (iii) investigating the perceptions of Chinese participants regarding IFR. Fifteen research questions were designed and twelve hypotheses were drawn on to accomplish the above aims and objectives. Data was collected via the IFR index review and semi-structured interviews were conducted to answer the research questions and test the twelve hypotheses. The purpose of this chapter is to summarise the thesis and present its main conclusions. Section 9.2 presents the summary and key findings of the study. Section 9.3 highlights the contributions of the study to knowledge and the implications of IFR practices. Section 9.4 discusses the limitations of the study and offers suggestions for further research.

9.2 Summary and Key Findings of the study

The overview of the main findings of the study are summarised below by objectives and related research question:

Objective 1

RQ1: What are the scope and patterns of IFR and its components by Chinese listed companies?

This question was answered in Chapter 6 through analysis and evaluation of the firms' IFR checklist. The original sample was 150 of the largest companies and 150 of the smallest companies currently listed on the Shanghai and Shenzhen Stock Exchange, categorised by market capitalisation. 284 (95%) companies have accessible websites. All 284 were rated according to the disclosure checklist identified. The disclosure checklist included 104 items, of which 67 are content items, 10 are timeliness items, 14 are presentation items and 13 are usability items. It was found that 100% of companies include graphic images on their websites and none of the companies disclosed XBRL

format information. This indicates a high degree of variation in the quality of the sample websites and the amount of information presented.

Content disclosure encompasses 67 items, including accounting and financial information, corporate governance information, social responsibility information, and contact details. A total of 36 items regarding accounting and financial information were included in the study. It was found that the highest percentage, 68%, related to past financial highlights, whilst the lowest percentage, 10%, concerned earning and sales forecasts. The study found that about 67% of the total sample disclosed their current year's balance sheet, income statement, and cash flow statement on their websites, whilst 63% of the companies disclosed their previous year's balance sheet, income statement, and 67% of the past year's cash flow statement. This is in contrast with Xiao et al.'s earlier study (2004), which found 44.3% of sample companies provided the current year's balance sheet and current year's income statement, and 42.4% provided the current year's cash flow statement. In total, 63.5% of the companies sampled by Xiao et al. (2004) provided their previous year's balance sheet, and the previous year's income and cash flow statements.

Corporate governance information tested comprised 15 items, and the level of disclosure varied from a maximum of 73% to a minimum of 17%. Only 17% of the sample companies disclosed a code of ethics on their websites, similar to the survey results obtained by Álvarezet al. (2008), which reported 16.2% of Spanish companies sampled disclosed their codes of ethics. Marston and Polei (2004) found that 9% of German companies disclosed their code of ethics on their websites.

Social Responsibility Information contained 11 items; among these, the percentages of disclosure varied widely from a maximum of 99% to a minimum of 2%. It was found that almost 99% of the sample companies disclosed their company profiles on their websites, whilst only 2% of sample companies disclosed their customer profiles. It was found that 33% of the companies surveyed disclosed information from environmental and health and safety reports. This relatively low result can be compared with UK companies (86%) surveyed by Allam and Lymer (2003) and German companies (52%) surveyed by Marston and Polei (2004).

With regard to the timeliness of the information disclosed on the websites of Chinese sample companies, the checklist contained 10 items. A total of 98% of the companies in this study disclosed current press releases and news items on their websites, compared to 60.1% in Xiao et al. (2004). 59% of sampled companies disclosed their current share price in this study. The FASB (2000) survey showed that 57% of the US companies surveyed provided samples according to their latest stock prices, while later, Allam and Lymer (2003) found that 96% of the companies surveyed in the US provided such information. A total of 93% of sample companies in Germany, surveyed by Marston and Polei (2004), provided current share prices.

In relation to the presentation of the sample websites, this checklist contained 14 items relating to presentation information. It was found that 100% of companies include graphic images on their websites. However, this study found none of the annual reports and financial statements were disclosed in XBRL format. Boubaker et al. (2012) reported the same result regarding the provision of data in the XBRL format, following their study of French listed companies

Website usability was assessed according to 13 items in this study. The highest percentage was for next/previous/top buttons to navigate sequentially, which was 97%, and the lowest percentage was for an option to bookmark pages, which scored 0.00%. It is worth noting that only 2% of companies supplied online investor information about order services, a result that mirrored Xiao et al.'s (2004). Marston and Polei (2004) found 42% of German companies provided online investor information services in 2000, but that this number had increased to 80% by 2003.

In summary, the data presented by this study, updates the previous research by Xiao et al. (2004), and the descriptive analyses show, that in the interim, companies have sought to improve the reporting quantity and quality of voluntary disclosures on their Websites. There was relative improvement in disclosures of financial information, corporate governance information, social responsibility, timeliness of disclosure, presentation and usability on the sampled websites. However, compared to recent research in the US, UK and other western countries, it is suggested that the quality of IFR still requires improvement in China if it is to meet expectations and developments in the global securities market, which demand more open and transparent information disclosure for listed companies.

RQ2: Is there any difference between bigger listed companies and smaller companies with regard to IFR and its components?

Chapter 6 answered this question, by comparing the 149 bigger and 135 smaller companies' IFR scores. The highest total score was 0.95 for the bigger companies and 0.75 for the smaller. The lowest total score for the bigger companies was 0.13 and the lowest score for the smaller companies was 0.07. The mean score for the bigger companies was 0.663 compared to 0.388 for the smaller companies, and the median of the IFR score for the bigger companies was 0.726 compared to 0.373 for the smaller companies. These results indicate that bigger companies have better IFR scores than smaller companies. The skewness value for the bigger companies was -1.25; whereas, the skewness value for smaller companies was 0.186. This indicated that the scores for total IFR items for the bigger companies were accumulated on the right side of the distribution, and those for the smaller companies were on the opposite side. The Kurtosis value found for the bigger companies was 0.664 and for the smaller companies it was -1.578. A positive kurtosis value indicates that the distribution of IFR scores for bigger companies was relatively flat; whereas, on the other hand, the distribution of IFR scores for the smaller companies was rather peaked.

RQ3: What company specific factors determine the level of IFR and its components by Chinese listed companies? RQ4: What are the corporate governance factors that determine the extent and scope of IFR and its components by Chinese listed companies?

These questions were answered in Chapter 6 by testing the relationship between each firms IFR scores, the firms' characteristics, and corporate governance factors. Consistent with previous research in this field, the results of univariate analysis and multivariate analysis are mixed. The findings showed that company size, industry type, big-4 auditor type, state share ownership, foreign share ownership, CEO duality, and the proportion of independent directors are significant explanatory variables for total score disclosed on the corporate website. Conversely, leverage, profitability, legal personal ownership, and board size have no predictive value for Internet reporting practices among the listed companies (See Table 9.1). Sensitivity analyses were performed and the results are consistent.

Table 9.1 Summary of factors affecting IFR practice

Factors	Univariate analysis	Multivariate analysis	Theories supported
SIZE	Positive	Positive	Agency theory, signalling theory, cost and benefit approach
PROFITABILITY	No relation	No relation	
LEVERAGE	Positive	No relation	
INDUSTRY	Positive	Positive	Signalling theory
BIG4	Positive	Positive	Agency theory Signalling theory
STASHARE	Weak positive	Negative	Agency theory Institutional theory
LEASHARE	Negative	No relation	
FSHARE	Positive	Positive	Agency theory, Institutional theory
CEODUALITY	No relation	Positive	Stewardship theory
BOARDSIZE	Positive	No relation	
INDEPDIR	Positive	Positive	Agency theory

Classifying IFR according to content score, corporate governance score, social responsibility score, timeliness score, presentation score, and usability score, provided novel methods for explaining the relationships between IFR and their determinants. Only size, industry type and state share ownership were found to explain IFR corporate governance score, whilst size, profitability, state share ownership and proportion of independent directors on board predicts the IFR social responsibility score. IFR timeliness can be explained by the size, state share ownership, foreign share ownership, CEO duality, and the proportion of independent directors on board.

RQ5: What factors influence whether Chinese listed companies disclose the English version of IFR? RQ6: What factors influence whether Chinese listed companies disclose financial information on their websites?

In addition, two logistic regressions were run to test the models, and to predict what factors determine whether a company has an English website or not, the second logistic

regression was run to test models, and to predict whether a company discloses financial information on its website or not. The results indicated that larger companies with CEO duality tend to disclose information online on English language web pages, whereas, companies with a higher proportion of state-owned shares were unwilling to disclose information online on English language web pages. The results suggest that larger companies, holding a high-tech industry catalogue, and with more foreign shares are likely to disclose financial information online. Companies with more state-owned shares and a higher debt ratio are unwilling to disclose financial information. This may be because companies with higher state ownership in China receive government financing and so are less dependent on the stock market for external capital to fund their investments; thus, there is less need for them to communicate with investors to reduce information asymmetry (Tang and Wang, 2011).

RQ7: In the companies participants' view what are the additional factors that determine the extent and scope of IFR and its components by Chinese listed companies?

This question was answered in Chapter 8 through analysis of the semi-structured interviews. The finding from the interviews with the companies' participants suggested that factors determining whether companies adopt IFR are: communication tools with investors and other stakeholders, provision of timely information to investors, the benefit of having a website for a company's image and reputation, management decisions and winning awards (see Table 9.2).

Table 9.2 Other factors determining a company's adoption of IFR

Factors determined company adopting IFR	Semi-structured interviews results	Theories supported
Communications tools with investors and stakeholders	32% agreed	Agency theory
Timely information to investors	24% agreed	Signalling theory
Benefit of having their websites	28% agreed	cost and benefit approach
Company's image and reputation	20% agreed	Signalling theory
Management decision	16% agreed	Agency theory Signalling theory
Winning awards	12% agreed	Signalling theory Institutional theory

RQ8: In the companies participants' view what are the factors influence the non-financial disclosure of IFR by Chinese listed companies? RQ9: Why have some companies not set up websites yet?

This question was answered in Chapter 8 by analysing the semi-structured interviews. Factors influencing companies not to disclose financial information on their websites was the presence of this financial information in other media. Additionally, some companies had no website because there is no legal requirement to do so and a website is not a priority of management. The interviewees also stated that future creation of new websites is a factor on their agendas.

Objective 2

RQ10: Is there any difference between the bigger and smaller Chinese listed companies' firm value?

This question was answered by comparing firm values across the 149 bigger and 135 smaller companies in 2010 and 2011. A Mann-Whitney test and a T-test were performed to yield the results. The smaller sample companies reported a greater average increase in Tobin's Q value 2010, 2011 and the MBR 2010, 2011 than the bigger sample companies. This indicated a statistically significant difference between the bigger and smaller sample companies' firm valuations. On average, the smaller companies had an increased Tobin's q value, and MBR both in 2010 and 2011. This result is consistent with prior research by Shan and Xu (2012), which found firm size had a significant negative relationship with Tobin's Q. Bai et al. (2004) and Leung (2010) concluded that smaller companies have a higher firm value when measured by Tobin's Q. It may be concluded from this study that, by disclosing voluntary information on their websites, smaller companies enjoy the benefit of higher market valuations.

RQ11: Is there any difference between the firm values of Chinese listed companies with an English version of IFR and those without?

This question was answered in Chapter 7 by comparing firm values across the 77 companies who in 2010, 2011 had an English-language version of their website, and the

207 companies who did not. Mann-Whitney tests and a T-test were used to calculate the results. Companies without an English-language website had on average an increased Tobin's Q value and the MBR for 2010, 2011 compared to companies with an English-language version. This indicated a statistically significant difference between sample companies with and without an English-language version with respect to Tobin's Q and the MBR in 2010 and 2011.

In the context of China, higher value firms may choose not to disclose English information on their websites, as they consider the benefits of English information are outweighed by the associated cost; for example the cost of preparing English information and the costs associated with information disclosure by international competitors. As the market in China does not operate openly, it can also be concluded that higher value firms may be able to gain preferential treatment from the government, such as preferential loans and large product orders (Sun et al., 2012) and less reliance on international investors.

RQ12: Is there any difference between the firm values of Chinese listed companies that disclose financial information on their websites and those who do not?

In Chapter 7, this question was answered by comparing firm value between companies with or without financial information on their websites. The Mann-Whitney test and T-test were performed to determine results. Surprisingly, companies that did not disclose financial information had a higher Tobin's Q for 2010, 2011 value on average, and a higher MBR ratio, than those companies that did. Thus, there was a statistically significant difference between the Tobin's Q values and MBR in 2010, 2011 for companies that disclosed financial information and those who did not. In the case of China, when financial information that could reveal certain crucial aspects of a firm's operations is disclosed to investors, it is also disclosed to the firm's competitors, which may disadvantage the firm competitively. For this reason, higher value firms tend not to disclose additional financial information on their websites when proprietary costs are sufficiently high.

RQ13: How do IFR and its components impact on Chinese listed companies' firm value?

This question was answered in Chapter 7 by testing the IFR index results and firm value. Firm value was measured by Tobin's Q for 2010 and 2011. In addition, firm value was measured by the MBR for 2010 and 2011. Two Pearson correlation tests and spearman' rho correlation tests were run to identify any relationship between the firm value and other variables. The three sets of Pearson correlation tests and Spearman' rho correlation tests in 2010 and 2011, all suggested IFR firm value is negatively associated with total score, company size and the proportion of foreign shares. IFR firm value is positively associated with profitability, but no other relationship was identified in the univariate analysis.

Univariate and multivariate analyses were performed to discover whether IFR and its components affect a firm's value. Models for both 2010 and 2011 revealed that IFR total score has a significant negative impact on firm value. Additional regression tests were therefore performed to examine firm value and IFR components, IFR content, timeliness, corporate governance, social factors, presentation and usability all have a negative effect on firm value. A significant negative association between IFR information and firm value suggests proprietary costs are particularly relevant for IFR disclosure.

In this study, in line with the results of previous studies, there was a significant negative association between IFR total score, content, corporate governance, social, timeliness, presentation, usability and firm value, as well as the 2010 and 2011 models. One explanation is that higher value firms may choose not to disclose more IFR information if the benefits of disclosure are outweighed by the associated cost, such as proprietary costs. A significant negative association between IFR information and firm value suggests these costs are particularly relevant for IFR disclosure. Another explanation is that firms might not disclose IFR because they perceive no benefit to investors. The Chinese information environment is a low information environment, and Chinese retail investors are less sophisticated than those in the developed economies. Therefore, the quality of information and the level of disclosure that relevant differ, and what is useful for the Chinese investor is more basic than that for investors in developed economies (Lam and Du, 2004).

Additionally, board size was found to be negatively related to firm value. This reflects the fact that in the Chinese context, board size may not be able to affect the extent of

any monitoring, controlling and decision making in Chinese firms. Prior studies show that large boards are less effective than smaller boards, due to free-rider problems. More specifically, when the board of directors is in the hands of state-owned larger shareholders, there is a serious insider control problem in Chinese listed companies (Wei and Geng, 2008). Furthermore, there are few professionals (lawyers, accountants and finance experts) on the corporate boards in Chinese firms, and almost no minority shareholder representation (Chen et al., 2004). As a result, board independence is highly compromised (Liu, 2006). Thus, it is likely that such boards do not effectively monitor management or enhance firm value.

Objective 3

RQ14: What are the perceptions of IFR from the participants in China's perspective?

This question was answered by analysing the semi-structured interviews with the participants in chapter 8. The cost of constructing and improving a website, and additional costs that may be incurred by companies when disclosing information online, the languages used to construct the website, the format that companies use to disclose financial information, and the security of websites were all considerations discussed by the interviewees. The cost of setting up and maintaining a website varies; for example, one company spent nearly RMB 5 million Yuan (£500,000) constructing their websites, while another company spent just RMB 100,000 Yuan (£10,000). Several companies have outsourced the construction and maintenance of their websites. One of the interviewees raised a concern regarding the cost of disclosing sensitive information; they reported reluctance to enable their competitors to gain access to their information, which supports the proprietary cost theory.

With regard to updating their websites, some companies stated that they update their websites several times a day, while others update daily; other companies update their sites several times each week. The process of updating a website depends on the internal system and capital structure; for example, if a company is a state-owned company it must receive the consent of the relevant government body before releasing information to the public.

In respect of the language used on websites, some companies use multiple languages, for example both Chinese and English, and other companies use Chinese only. Regarding the format on which financial information is issues, most interviewees stated a preference for a PDF format, one interviewee stated that XBRL can be found on Stock Exchange websites. Web security was also a concern; companies expressed concern about the negative impacts of unsecured websites.

RQ15: How, from the participants in China's perceptive, can IFR be improved?

This question was answered by the results from the semi-structured interview in Chapter 8. One of the interviewees suggested new rules and regulations would promote the development of IFR; on the other hand, another interviewee felt there is no need to resort to a legal regulation. A few interviewees argued that the information presented was relatively complete. They suggested that most companies disclose a substantial amount of mandatory information on their websites, and that more voluntary disclosure should be offered to inform investors in the future. Other interviewees emphasised the benefit of including an interactive platform on their websites, although others felt that companies should accelerate their content update frequency to meet stakeholders' needs. They observed that the rapid increase in numbers of mobile users in China has brought about both opportunities and challenges to companies.

9.3 Contributions and implications of the study

This study contributes to the literature by providing empirical and theoretical evidence on IFR practices of China listed companies. Results from statistical analysis, together with perceptions of the participant interviewed, provided a better understanding of IFR practices.

Firstly, the study provided a new approach to assessing the extent to which companies disclosed IFR on their websites; the content and presentation were examined in earlier studies, but this study is distinctive in considering content, timeliness, presentation and usability, as it provides a clearer portrayal of those Chinese list companies engaged in IFR.

Secondly, since the Chinese government recently emphasised corporate governance issues and their intention to improve the situation, corporate governance factors have

been investigated in this study; very few researchers have previously dealt with this in reference to China. These factors include board independence, board size and CEO role duality and the study considers whether they affect IFR.

Thirdly, the study provides a methodological contribution to IFR practices, in terms of exploring the potential of mixed methods research. In contrast, earlier explanatory studies were purely quantitative in nature in the main. In addition; other motivations regarding IFR disclosure were examined, thus the triangulation of the research method is employed. In addition, the disclosure index and semi-structured interviews were used to gain a more in-depth understanding of the area.

Fourthly, the study contributes to the existing literature on IFR by providing a comprehensive theoretical framework to apply to an emerging market. Prior studies investigating the determinants of IFR theories as a new area of voluntary disclosure, and the current study, consider institutional theory as well as agency theory, signalling theory and the cost and benefit approach. The theoretical triangulation applied in this thesis also provided a broader understanding of IFR practices.

Fifthly, this study differs from prior studies conducted in the same area, because it examines not only the factors that determine companies' adoption of IFR practices, but also the factors that influenced companies not to disclose information on their websites. This study employed semi-structured interviews to uncover this information.

Sixthly, one of the more significant features in this study is to determine the economic consequences of IFR according to Chinese listed companies, as these have never been examined before in China. The study provides empirical evidence to explain how IFR and its components, CG factors affect a firm's value. The irrelevance and negative impact of IFR on firm value reveals several deficiencies in the Chinese stock market.

Seventhly, prior research details the increasing supply of IFR, as there is a lack of empirical research investigating participant's perceptions of this information. This research investigated the perceptions of Chinese participants on IFR to fill this gap. By conducting a semi-structured interview with some participants, the research provides an insight into the advantages and problems apparent in current IFR practice, with specific

reference to the implementation of IFR for the purposes of development and improvement.

My empirical results support several theoretical predictions. Despite the ongoing reform, the ownership structure remains a significant corporate governance issue in China. High state ownership and legal person ownership in China result in traditional agency issues arising between controlling shareholders and minority shareholders. State ownership was found to be negatively significant with the IFR score in this study, suggesting that state-owned firms suffer from greater information asymmetry, and agency problems. Foreign share ownership positively affected the total score for the information disclosed in this study. Consistent with agency theory predictions, foreign investors behaved as effective external agents, exerting more effective external monitoring and pressure on management to disclose more IFR information. Therefore, firms with foreign share ownership are extremely motivated to disclose extra information voluntarily. As a result, managers tend to disclose more IFR information to meet the expectations of shareholders. In addition, firms with foreign ownership are more politically visible and subject to more public scrutiny in China, and the findings imply the adoption of IFR to satisfy the public by improving transparency might potentially reduce political costs. Consistent with Stewardship theory predications, CEO duality creates a necessary and important unity of command at the top of the organisation; both large and small Chinese listed companies in which a single person occupies the CEO and Chairman positions disclose more information on their websites.

Furthermore, a significant negative association between IFR information and firm value suggests proprietary costs are particularly relevant for IFR disclosure. Higher value firms choose not to disclose more IFR information if the benefits of disclosure are outweighed by the associated cost, such as the proprietary costs. These costs include not only the costs of preparing and disseminating information but also costs deriving from disclosure of information, which may be used by competitors and other parties in a way that is harmful to the reporting company. In addition, the Chinese information environment is considered a low information environment, Chinese retailers and investors are less sophisticated than those in developed economics. Thus, voluntary disclosure in China is generally associated with low marginal benefit, and there is minimal pressure on Chinese firms to use IFR to access outside resources (Chen et al.,

2014). For these reasons, high value Chinese firms are less likely to disclose IFR on their websites.

In this study, among other control variables, company size, the proportion of foreign shares and board size were negatively related to firm value, whilst ROA was positively related to firm value. This reflects the fact that in the Chinese context, larger companies with a higher proportion of foreign shares and a larger supervisory board disclosed more information on their websites, negatively affecting their firm value. Companies that were more profitable had a positive effect on firm value. Although the results contradict the majority of IFR studies, they were nevertheless consistent with some studies in the Chinese context. Despite a spilt share structure reform in 2006 and the significant decrease in state ownership, this reform was almost complete by 2008, although state shareholders were reluctant to lose control (Wei and Geng, 2008). Thus, large state associated firms have less distance between ownership and control, this finding highlights the existence of agency problems in China, especially for larger companies.

The benefit of this research is that it illuminated the relationship between IFR practice and the Chinese institutional environment. These empirical results offer significant benefits to professional bodies, in particular furthering understanding of IFR practices and their characteristics, to help guide regulatory approaches to IFR, and to dictate rules and recommendations for the future. The empirical results are particularly useful for investors and other users, because they could help them to estimate the types and extent of information provided by listed companies. Therefore, they can then adjust their strategy when collecting additional information from other sources, and act cautiously when evaluating corporate disclosure. These empirical results are also very useful for companies seeking to learn from companies exhibiting best practice. In particular, the evidence showing that smaller companies benefit more from IFR than the bigger companies, in terms of firm value, should motivate smaller companies to improve their IFR practice and enhance their market valuation. This would provide additional value to their shareholders and reduce future investment costs. The results will be particularly interesting to academics and future researchers in the area of emerging markets, as the Chinese stock market is rapidly developing and offers a unique institutional setting. This research provides useful insights into how agency issues, the cost and benefit approach and unique institutional frameworks are related to IFR.

9.4 Limitations and suggestions for further research

Although this study has provided some useful insights into IFR by listed companies on the CSE, several limitations should be noted, as there are several future research opportunities in this area.

Firstly, the current study focuses only on Internet disclosure in China, and so the results may not be possible to replicate in other countries. An international meta-analysis of the determinants of IFR would be useful to gain a clearer picture to develop a comprehensive predictive IFR model.

Secondly, the time horizon of the study is cross-sectional, which implies that the findings are related to a specific year, i.e. 2011. Some prior studies considered a longitudinal time horizon, covering more than one period, and so were able to identify trends in IFR, and establish causal relationships.

Thirdly, this study focuses on IFR only, which represents just one element of a company's disclosure; future studies could offer a comparison between both Internet and paper-based mediums, to demonstrate the differences between the two. The significant association between various mediums of disclosure and their determinants may vary, which would enrich the discussion about the value of using the Internet as a disclosure tool.

Fourthly, in terms of the IFR measuring process, the subjectivity associated with weighting is a major limitation of this approach, as the current study weighted each item of disclosure equally, although different information might not be equally important or relevant. Another area for future study could involve using a weighted disclosure in conjunction with questionnaires to establish the relative importance of different types of, and means of disclosing, financial and non-financial information for various groups (Aly et al, 2010).

Fifthly, usability and the perceived credibility of information provided on a corporation's website varies greatly; future research is required to investigate how continuous auditing could be used to enhance the credibility of internet financial

reporting and disclosure. This is another area that has not been covered in this study, and could be researched further.

Sixthly, the current study tested the relationship between IFR, corporate CG mechanisms and firm valuation; namely, Tobin's Q and the market/book value. Further study might empirically test whether or how IFR impacts upon other measurements of a companies' performance, for instance a company's cost of capital, cash flows, stock prices, trading volumes of the shares and analysts' following. Further, additional research could distinguish an association between good versus bad presentation of non-financial information on a website, and a firm's financial cost (Orens et al., 2010).

Seventhly, the current study only analysed the perception of company's participants, a future area of research would be to consider the opinions of other user groups. Investigating the perceptions of regulators, investors and academics could shed provide a clearer understanding of IFR practices.

Finally, from a theoretical perspective, the current study used agency theory, signalling theory, institutional theory, cost and benefit approach and stewardship theory to explain and predict IFR practices. Further research could also apply legitimacy theory and stakeholder theory to gain an insight into IFR practices.

References

Abdelsalam, O. H. & Bryant, S. (2004). Corporate Internet reporting by BSE Sensex companies. *Indian Accounting Review*, 8 (2), 1-18.

Abdelsalam, O. H. & Street, D. L. (2007). Corporate governance and the timeliness of corporate internet reporting by UK listed companies. *Journal of International Accounting, Auditing and Taxation,* 16 (2), 111-30.

Abdelsalam, O. H., Bryant, S. M. & Street, D. L. (2007). An examination of the comprehensiveness of corporate Internet provided by London-listed companies. *Journal of International Accounting Research*, 6 (2), 1-33.

Abdelsalam, O. H. & El-Masry, A. (2008). The impact of board independence and ownership structure on the timeliness of corporate internet reporting of Irish-listed companies. *Managerial Finance*, 34 (12), 907-918.

Aboody, D., Barth, M. & Kasznik, R. (2004). Firms' voluntary recognition of stock- based compensation expense. *Journal of Accounting Research*, 42,123-150.

AbuGhazaleh, N. M., Qasim, A. & Haddad, A. E. (2012). Perceptions and attitudes toward corporate website presence and its use in investor relations in the Jordanian context. *Advances in Accounting, incorporating Advances in International Accounting*, 28, 1-10.

Adams, C. A. & Frost, G. R. (2006). The internet and change in corporate stakeholder engagement and communication strategies on social and environmental performance. *Journal of Accounting and Organizational Change*, 2 (3), 281 – 303.

Ajinkya, B., Bhojraj, S. & Sengupta, P. (2005). The association between outside directors, institutional investors and the properties of management forecasts. *Journal of Accounting Research*, 43 (3), 343-376.

Alali, F. & Romero, S. (2012). The use of the Internet for corporate reporting in the Mercosur (Southern common market): The Argentina case. *Advances in Accounting, incorporate Advances in International Accounting,* 28, 157-167.

Al-Htaybat, K. (2011). Corporate Online Reporting in 2010: A Case Study in Jordan. *Journal of Financing Reporting and Accounting*, 9 (1), 5-26.

Al-Htaybat, K. A., Abdulrahman, N. I. & Awad, A. M. M. (2013). Model for the Adoption of Smart Mobile Devices in Corporate Financial Reporting. *International Journal of Business and Management*, 8 (24), 1-16.

Al-Htaybat, K., Alberti-Alhtaybat, L. & Hutaibat, K. A. (2012). User's Perceptions on Internet Financial Reporting Practice in Emerging Markets: Evidence from Jordon. *International Journal of Business and Management*, 6 (9), 170-182.

Ali, I. (2010). Internet Financial reporting: A review of the literature and further evidence from New Zealand, ARA conference papers

Ali Khan, M. N. A. & Ismail, N. A. (2009). Internet Financial Reporting in Malaysia, Factors, Pros and Cons. *Accountants Today*, 22 (2), 28-31.

Ali Khan, M. N. A. & Ismail, N. A. (2011). The level of Internet Financial Reporting of Malaysian Companies. *Asian Journal of Accounting and Governance*, 2, 27-39.

Ali Khan, M. N. A. & Ismail, N, A. (2012a). Bank Officer's Views of International Financial Reporting in Malaysia. *Procedia-Social and Bahavioral Sciences*, 57, 75-84.

Ali Khan, M. N. A. & Ismail, N. A. (2012b). Various Aspects of Internet Financial Reporting: Evidence from Malaysian Academician. *Journal of Global Business and Economics,* 4(1), 1-15.

Ali Khan, M. N. A. & Omar, N. A. (2013). A Study of Various Aspects of Internet Financial Reporting: A Case of Malaysian Auditors. *Information Management and Business Review*, 5 (6), 278-291.

Allam, A. & Lymer, A. (2003). Developments in Internet Financial Reporting: Review & Analysis across Five Developed Countries. *International Journal of Digital Accounting Research*, 3 (6), 431-464.

Al-Shammari, B. (2007). Determinants of Internet Financial reporting by the listed companies on the Kuwait Stock Exchange. *Journal of International Business and Economics,* 7 (1), 1-16.

Álvarez, G. I., Sánchez, G. & Domínguez, R. (2008).Voluntary and compulsory information disclosed online The effect of industry concentration and other explanatory factors. *Online Information Review,* 23 (5), 596-622.

Aly, D., Simon, J. & Hussainey, K. (2010). Determinants of corporate internet reporting: evidence from Egypt. *Managerial Auditing Journal*, 25 (2), 182-202.

Arksey, H. & Knight, P. (1999). *Interviewing for social scientists*. Sage Publications.

Andrés, J. D., Lorca, P. & Martínez, A. B. (2009). Economic and financial factors for the adoption and visibility effects of Web accessibility: The case of European banks. Journal of the American Society for Information Science and Technology, 60 (9), 1769-1780.

Armitage, S.& Marston, C. (2008). Corporate disclosure, cost of capital and reputation: Evidence from finance directors. *The British Accounting Review*, 40 (4), 314 -336.

Armstrong, P. (1991). Contradiction and Social Dynamics in the Capitalist Agency Relationship. *Accounting, Organizations and Society*, 16 (1), 1-25.

Arrow, K. (1971). *Essays in the theory of risk bearing*. Chicago, Markham.

Ashbaugh, H., Johnstone, K.M. & Warfield, T.D. (1999). Corporate reporting on the Internet. *Accounting Horizons*, 13 (3), 241-257.

Bai, C., Liu, Q., Lu, J., Song, F. & Zhang, J. (2004). Corporate governance and market Valuation. *China. Journal of Comparative Economics*, 32, 599-616.

Balsam, S., Chen, H. & Sankaraguruswamy, S. (2003). Earnings Management Prior to Stock Option Grants. Working Paper, Temple University, Philadelphia, PA.

Barako, D. G. & Tower, G. (2008). Web communication: An Indonesian perspective. *African Journal of Business Management*, 2 (3), 053-058.

Barako, D.G., Hancock, P. & Izan, H.Y. (2006). Factors influencing voluntary corporate disclosures by Kenyan companies. *Corporate Governance: An International Review*, 14 (2), 107–125.

Barry, C. & Brown, S. (1985). Differential information and security market equilibrium. *Journal of Financial and Quantitative Analysis,* 20 (4), 407-422.

Beasley, M. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *Accounting Review,* 71(4), 443-65.

Beasley, M. S., Carcello, J. V., Hermanson, D. R. & Neal, T. L. (2009). The Audit Committee Oversight Process. *Contemporary Accounting Research*, 26 (1), 65-122.

Beattie, V. (2000). The future of corporate reporting: a review article. *Irish Accounting Review,* 7 (1), 1–36.

Beattie, V. & Pratt, K. (2003). Issues concerning Web-based business reporting: an analysis of the views of interested parties. *British Accounting Review*, 35 (2), 155–87.

Beattie, V. & Thomson, S. (2007). Lifting the lid on the use of content analysis to investigate intellectual capital disclosures in corporate annual reports. *Accounting Forum*. 31 (2), 129-163.

Belkaoui, A. & Karpik, P. (1989). Determinants of the corporate decision to disclose social information. *Accounting, Auditing and Accountability Journal*, 2 (1), 36-51.

Bell, H. & Tang, N. K. H. (1998). The Effectiveness of Commercial Internet Websites: A User's Perspective. *Internet Research: Electronic Networking Applications and Policy,* 8 (3), 219–228.

Bennedsen, M., Kongsted, H. C. & Nielsen, K. M. (2008). The causal effect of board size in the performance of small and medium-sized firms, *Journal of Banking & Finance,* 32, 1098-1109.

Bennett, R. (1991). How is Management Research Carried out? In N.C. Smith and P. Dainty. *The Management Research Handbook*. Routledge, London.

Berelson, B. (1952). *Content analysis in communication research*. New York: Free Press.

Bhushan, R. & Lessard, D. R. (1992). Coping with international accounting diversity: fund managers' views on disclosure, reconciliation and harmonization. *Journal of International Financial Management and Accounting*, 4 (2), 149-164.

Bloomfield, R. J. & Wilks,T. J. (2000). Disclosure Effects in the Laboratory: Liquidity, Depth, and the Cost of Capital. *The Accounting Review*. 75 (1), 13-41

Boardman, A., Greenberg, D., Vining, A. &Weimer, D. (2005). *Cost Benefit Analysis: Concepts and Practice (3rd ed).* Prentice Hall.

Bollen, L., Hassink, A. & Bozic, G. (2006). Measuring and explaining the quality of Internet investor relations activities: a multinational empirical analysis. *International Journal of Accounting Information Systems,* 7, 273-298.

Bollen, L., Hassink, A., Lang R. & Buijl, S. (2008). Best practices in managing investor relations websites: Directions for future research. *Journal of Information systems*, 22 (2), 171-194.

Bond, M. H. (1988). Finding dimensions of individual variation in multicultural studies of values: the Reteach and Chinese value surveys. *Journal of Personality and Social Psychology,* 55(6), 1009- 1115.

Bonsón, E. & Escobar, T. (2006). Digital reporting in Eastern Europe: An empirical study. *International Journal of Accounting Information System*, 7, 299-318.

Boritz, J. E. & No, W. G. (2009). Assurance on XBRL-Related Documents: The case of United Technologies Corporation. *Journal of Information systems*, 23(2), 49-78.

Botosan, C. A. (1997). Disclosure level and the cost of equity capital. *Accounting Review,* 72 (3), 323-334.

Botosan, C. A. & Plumlee, M. A. (2002). A re-examination of disclosure level and the expected cost of equity capital. *Journal of Accounting Research*, 41, 21-40.

Botti, L., Boubaker, S., Hamrouni, A. & Solonandrasana, B. (2014). Corporate governance efficiency and internet financial reporting quality. *Review of Accounting and Finance*, 13 (1), 43-64.

Boubaker, S., Lakhal, F. & Nekhili, M. (2012). The determinants of web-based corporate reporting in France. *Managerial Auditing Journal*, 27 (2), 126–155.

Box, G. E. P. & Tidwell, P. W. (1962). *Transformation of the independent variables*. Technometrics, 4 (4), 531-550.

Bozcuk, A., Arzova, B.S. & Aslan, S. (2009) Internet Financial Reporting: The Case of Turkey 2nd EUROMED Conference of the EUROMED Academy of Business. Available at SSRN: http://ssrn.com/abstract=149052

Brennan, N., Hourigan, D. (2000). Corporate reporting on the internet by Irish companies. *Irish Accounting Review*, 17, 37-68.

Brennan, N. & Kelly, S. (2000). Use of the Internet by Irish companies for investor relations purposes. *IBAR - Irish Business and Administrative Research*, 21 (2), 107-135.

Brickley, J. A., Coles, J. & Jarrell, G. (1997), Leadership Structure: Separating the CEO and Chairman of Board. *Journal of Corporate Finance*, 3, 189-220.

Bryman, A. (2004). *Social Research Methods*. New York: Oxford University Press.

Bryman, B. & Bell, E. (2011). *Business Research Methods (3rd ed*). Oxford: Oxford University Press.

Budisusetyo, S. & Almilia, L. S. (2008). *The Practice of Financial Disclosure on Corporate Website: Case Study in Indonesia*. Available at SSRN: http://ssrn.com/abstract=1219451

Buzby, S. L. (1975). Company size, listed versus unlisted stocks, and the Extent of Financial Disclosure. *Journal of Accounting and research*, 13, 16-37.

Cadbury Committee Report. (1992). *Report of the Cadbury Committee on the Financial Aspects of Corporate Governance,* Gee, London.

Calero, C., Ruiz, J. & Piattini, M. (2005). Classifying web metrics using the web quality model. *Online Information Review*, 29(3), 227-248.

Campbell, D., Shrives, P. & Saager, H. B. (2001). Voluntary disclosure of mission statements in corporate annual reports: signaling what and to whom? *Business and Society Review*, 106(1), 65–87.

Carmines, E. G., & Zeller, R. A. (1991). Reliability and validity assessment. Newbury Park, CA: Sage.

Carpenter, V. L. & Feroz, E. H. (2001). Institutional theory and accounting rule choice: An analysis for four US state governments' decision to adopt generally accepted accounting principles. *Accounting, Organizations and Society*, 26 (7-8), 565-596.

Carruthers, B. G. (1995). Accounting, Ambiguity, and The New Institutionalism**.** *Accounting, Organizations and Society,* 20 (4), 313-328.

Ceccagnoli, M. (2009). Appropriability, Preemption, and Firm Performance. *Strategic Management Journal,* 30 (1), 81-98.

Charkham, J. (1995). *Keeping Good Company--A study of corporate governance in five countries*. Oxford University Press.

Chen, C. J. P. & Jaggi, B. (2000). Association between independent non-executive directors, family control and financial disclosures in Hong Kong. *Journal of Accounting and Public Policy*, 19, 285-310.

Chen, J. J., Cheng, X., Gong, S. X. & Tan, Y. (2014). Do higher value firms voluntarily disclose more information? Evidence from China. *The British Accounting Review*, 46, 18-32

Chen, J. & Thomas, S. C. (2003). The ups and downs of PRC securities market. *The China Business Review,* 30 (1), 36-38.

Cheng, E. C. M. & Courtenay, S. M. (2006). Board composition, regulatory regime and voluntary disclosure. *The International Journal of Accounting*, 41 (3), 262-289.

Cheung, S. Y., Connelly, J. T., Limpaphayom, P. & Zhou, l. (2006). Determinants of corporate Disclosure and Transparency: Evidence from Hong Kong and Thailand. *Research Paper*. Sasin Graduate Institute of Business Administration of Chulalongkorn University.

Cheung, Y.L., Jang, P. & Tan, W. (2010). A transparency index measuring disclosures: Chinese listed companies. *Journal of Accounting Public Policy*. 29, 259–280

Chiang, H. (2005). An empirical study of corporate governance and corporate performance. *Journal of American Academy of Business*, 6, 95-101.

China Securities Regulatory Commission (CRSC). (2005*). Electronic information disclosure specification for listed companies* (in Chinese) JR/T 0021-2004, Beijing.

China Securities Regulatory Commission (CRSC). (2008). Specification on releases its Annual Report in XBRL (eXtensible Business Reporting Language) (In Chinese) Beijing.

China Securities Regulatory Commission (CRSC). (2010). China Capital's Market Development reports, 188, Beijing.

China Securities Regulatory Commission (CRSC). (2014). Statistical information (in Chinese), Beijing.

Chou, S. C. (2008). Information Disclosure during Privatization –The case of Web Disclosure from China. Available online: http://69.175.2.130/-finman/Xiamen/InformationDisclosureduringPrivATIZATION20081114.pdf

Chau, G. K. & Gray, S. J. (2002). Ownership structure and corporate voluntary disclosure in Hong Kong and Singapore. *The International Journal of Accounting,* 37 (2), 247-264.

Chow, L. M., Chau, G. K., & Gray, S. J. (1995). Accounting reforms in China: Cultural constraints on implementation and development. *Accounting and Business Research 26*(1), 29-49.

Christopher, T. & Hassan, S. (1995). *Voluntary disclosure of cash for information: Australian evidence.* paper presented at BAA Conference, Bristol.

Claessens, T. & Yurtoglu, B. (2013). Corporate governance in emerging markets: A survey. *Emerging Markets Review*, 15 (C), 1-33.

Clarkson, P., Guedes, J. & Thompson, R. (1996). On the Diversification, Observability, and Measurement of Estimation Risk. *Journal of Financial Quantitative Analysis, March*. 69-84

CNNIC (China Internet Network Information Centre). (2013). The 32th Statistical Report on Internet Development in China 2012. (http://www.cnnic.net.cn/en).

Cohen, J., G. Krisnamoorthy, & A. M. Wright. (2002). Corporate Governance and the Audit Process. Contemporary Accounting Research 19 (4):573-594.

Coles, J., Daniel, N. & Naveen, L. (2008). Boards: Does one size fit all? *Journal of Financial Economics*, 87, 329–356.

Coles, J., Lemmon, M. & Mescke, J. (2005). Structural models and endogeneity in corporate finance: The link between managerial ownership and corporate performance. Arizona State University working paper.

Collis, J. & Hussey, R. (2003). *Business Research, A practical guide for undergraduate and postgraduate students*. Houndmills, Palgrave Macmillan.

Campbell, J.Y., Lettau, M., Malkiel, B.G. & Xu, Y. (2001). Have individual stocks become more volatile? *An empirical exploration of idiosyncratic risk*. The Journal of Finance 56, 1–43.

Commission of the European Communities. (2004). Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the Harmonisation of Transparency Requirements in Relation to Information about Issuers Whose Securities are Admitted to Trading on a Regulated Market and Amending Directive 2001/34/EC, Commission of the European Communities, Brussels, available at: http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri = OJ:L:2004:390:0038:0057:EN:PDF

Cooke, T. E. (1998). Regression analysis in accounting disclosure studies. *Accounting and Business Research,* 28 (3), 209–224.

Cooke, T. E. (1992). The Impact of Size, Stock Market Listing and Industry Type on Disclosure in the Annual Reports of Japanese Listed Corporations. *Accounting and Business Research*, 22 (87), 229-237.

Cooper, S. (2006). Discussion of 'Disclosure and the cost of capital: what do we know?'. *Accounting and Business Research*, *International Accounting Policy Forum*, 41-2.

Core, J. (2001). A Review of the Empirical Disclosure Literature: Discussion. *Journal of Accounting and Economics*, 31, 441-456.

Cormier, D., Aerts, W., Ledoux, M. J. & Mognan, M. (2009a). Attributes of Social and Human Capital Disclosure and Information Asymmetry between Managers and Investors. *Canadian Journal of Administrative Sciences*, 26, 71-88.

Cormier, D., Ledoux, M. J. & Mognan, M. (2009b). The use of Web sites as a disclosure platform for corporate performance. *International Journal of Accounting Information Systems,* 10 (1), 1-24.

Craswell, A. T. & Taylor, S. L. (1992). Discretionary disclosure of reserve by oil and gas companies. *Journal of Business Finance and Accounting*, 19(2), 295-259.

Craven, B.M. & Marston, C. L. (1998). Financial Reporting by the Leading UK companies. *The European Accounting Review*, 8(2), 321-333.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* Thousand Oaks, Sage.

Crotty, M. (1998). The Foundations of Social Research: Meaning and Perspective in current issues. Paper presented at the 2004 DEST (CHESI) Beijing Conference.

Davey, H. & Homkajohn, K. (2004). Corporate Internet Reporting: An Asian Example. Problem and Perspective in Management. *Problems and Perspectives in Management*, 2, 211-227.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13 (3), 319-340.

Davis, J. H., Schoorman, F. D.& Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review*, 22 (1), 20-47.

Debreceny, R., Gray, G. & Monk, T. J. (2001). Financial Reporting Web Sites: What Users Want in Terms of Form and Content. *The International Journal of Digital Accounting Research,* 1 (1), 1-23.

Debreceny, R., Gray, G. & Rahman, A. (2002). The determinants of internet financial reporting. *Journal of Accounting & Public Policy*, 21, 371-394.

Deegan, C. & Unerman, J. (2011). *Financial Accounting Theory (2nd ed).* McGraw-Hill Higher Education.

Delanty, G & Strydom, P. (2003). *Philosophies of Social Science: The Classic and Contemporary Readings.* Open University Press.

Deller, D., Stubenrath, M. & Weber. C. (1999). A Survey on the Use of the Internet for the Investor Relations in the USA, the UK and the Germany. *The European Accounting Review*, 8(2),351-364.

Deloitte. (2006). *China's New Accounting Standards: A comparison with current PRC GAAP and IFRS.* Hong Kong: Deloitte Touche Tohmatsu.

Demos, N. (2008). *Perceptions of effectiveness of the investor relations function in Greece.* Ph.D thesis, Heriot-watt University.

Denzin, N. K. (1970). *The research act in sociology*. Chicago: Aldine

Demirag, I. S. (1998). Financial Systems and Corporate Governance: a Theoretical framework. Corporate Governance, Accountability, and Pressures for Reform: An International Study. London: JAI Press Inc.

Despina, A. D. & Demetrios, P. L. (2009). The web-based financial reporting adopted by the listed companies in the Athens Stock Exchange. *Journal of Modern Accounting and Auditing*, 5 (7), 7-20.

Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, Liquidity, and the Cost of Capital, *Journal of Finance*, 46, 1325-1359.

Dillard, J. F., Rigsby, J. T. & Goodman, C. (2004). The making and remaking of organization context: Duality and the institutionalization process. *Accounting, Auditing & Accountability Journal,* 17 (4), 506-542.

DiMaggio, P. J. & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological review*, 48, 146-160.

Donaldson, L. & Davis, J. H. (1991). Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. *Australian Journal of Management*, 16 (1), 49-69.

Dull, R. B., Graham, A. W. & Baldwin, A. A. (2003). Web-based financial statements: hypertext links to footnotes and their effect on decisions. *International Journal of Accounting Information Systems*, 4, 185-203.

Dunne, T., Helliar, C., Lymer, A. & Mousa, R. (2013). Stakeholder Engagement in Internet Financial Reporting: The Diffusion of XBRL in the UK. *British Accounting Review*, 45 (3), 167-182.

Dutta, P. & Bose, S. (2007). Web-based Corporate Reporting in Bangladesh: An Exploratory Study. *Cost and Management*, 35 (6), 29-45.

Dye, R. (1985). Disclosure of Non-proprietary Information. *Journal of Accounting Research,* 23(1), 13-147.

Dye, R. (2001). An evaluation of ''essays on disclosure'' and the disclosure literature in accounting, *Journal of Accounting and Economics*, 32, 181-335.

Easterby-Smith, M., Thorpe, R. & Lowe, A. (1991). *Management Research: an Introduction.* London, Sage.

Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *The Academy of Management Review,* 1 (14), 57-74.

Elliot, R.K. & Jacobson, P.D. (1994). Costs and Benefits of Business Information Disclosure. *Accounting Horizons*, 8 (4), 80–96.

Elliott, R. K. (1992). The Third Wave Breaks on the Shores of Accounting. *Accounting Horizons,* (6), 61–85.

Eng, L. L. & Mak, Y. T. (2003). Corporate governance and voluntary disclosure. *Journal of Accounting & Public Policy,* 22, 325-345.

Ettredge, M., Richardson, V. J. & Scholz, S. (2002). Dissemination of information for investors at corporate Websites. *Journal of Accounting and Public Policy*, 357–369.

Ettredge, M., Richardson, V. & Scholz, S. (2001). The presentation of financial information at corporate web sites. *International Journal of Accounting Information Systems*, 2, 149-168.

Ezat, A. (2010). *The key determinants of the voluntary adoption of corporate internet reporting and its consequence on firm value: evidence from Egypt*. Ph.D thesis, Plymouth Business School.

Ezat, A. & EI-Masry, A. (2008). The impact of corporate governance on the timeliness of corporate Internet reporting by Egyptian listed companies. *Managerial Finance*, 34(12), 848-867.

Fama, E. F. (1980). Agency Problem and the Theory of the Firm. *Journal of Political Economy,* 88 (2), 288-308.

Fama, E. F. & Jensen, M. (1983). Separation of ownership and control. *Journal of Law & Economics,* 26 (2), 301-25.

Faure, G.O. & Fang, T. (2008). Changing Chinese values: Keeping up with paradoxes. *International Business Review*, 17(2): 194–207.

Feng, Y. J. & Wan, T. S. (2013). Website-based investor relations: a comparison between developed and developing economics. *Online information review*, 37 (6), 946-968.

Feng, Y. J. & Xu, B. (2008). Investor Relations on Website: A Survey of Listed Companies in Shanghai, Shenzhen and Hong Kong. *Shanghai Finance*, 5, 1-4.

Ferguson, M. J., Lam, K. C. K. & Lee, G. M. (2002). Voluntary disclosure by state-owned enterprise listed on the Stock Exchange of Hong Kong. *Journal of International Financial Management and Accounting*, 13, 125-152.

Field, F. (2009). *Discovering Statistics Using SPSS (3rd ed)*. Sage Publications.

Fields, T., Lys, T. & Vincent, L. (2001). Empirical research on accounting choice. *Journal of Accounting and Economics*, 31, 255–307.

Financial Accounting Standards Board (FASB). (2000). Business Reporting Research Project: Electronic Distribution of Business Reporting Information, Steering Committee Report Series. Available at: www.fasb.org

Finkelstein, S. & D'Aveni, R. (1994). CEO duality as a double-edged sword: How boards of directors balance entrenchment avoidance and unity of command. *Academy of Management Journal,* 37, 1079–1108.

Fisher, R., Oyelere, P. & Laswad, F. (2004). Corporate Reporting on the Internet Audit Issues and Content Analysis of Practices. *Managerial Auditing Journal*, 19 (3), 412-439.

Flick, U. (1998). *An Introduction to qualitative research: Theory, Method and Applications.* London, Sage.

Flynn, G. & Gowthorpe, C. (1997). Volunteering Financial Data on the World Wide Web. A Study of Financial Reporting from a Stakeholder Perspective, Paper presented at the first Financial Reporting and Business Communications Conference, Cardiff, July.

Fox, J. (2002). *An R and S-plan to Applied Regression*, London, Sage.

Francis, J., Nanda, D. & Olsson, P. (2008). Voluntary Disclosure, Earnings Quality, and Cost of Capital. *Journal of Accounting Research*, 46(1), 53-99.

Frankel, R., Johnson, M. & Skinner. D. (1999). An Empirical Examination of Conference Calls as a Voluntary Disclosure Medium. *Journal of Accounting Research*, 37 (1), 133-150.

Frankfort-Nachrnias, C. & Nachmias, D. (1996). *Research Methods in the Social Sciences (5th ed).* New York: Worth Publishers.

Freebody, P. (2003). *Qualitative research in education: Interaction and practice*. London: Sage Publications.

Friedman, J. H. & Stuetzle, W. (1981). Projection pursuit regression. *Journal of the American Statistical Association*, 76, 817-823.

Froidevaux, E. A. (2004). *Investor relations on Internet Disclosure and the Cost of Capital—An Empirlcal Analysis*. Ph.D thesis, University of Fribourg (Switzerland).

Gandía, J. L. (2008). Determinants of internet-based corporate governance disclosure by Spanish listed companies. *Online Information Review*, 32 (6), 791 – 817.

Garay, U., González, M., Guzmán, A. & María Andrea Trujillo, M.A. (2013). Internet-based corporate disclosure and market value: Evidence from Latin America. *Emerging Markets Review*, 17, 150–168.

García, A., Larrán. M. & López, R. (2005). Empirical Evidence Concerning Smes´ Corporate Websites: Explaining Factors, Strategies and Reporting. *The International Journal of Digital Accounting Research,* 5 (10), 171-202.

García-Sanchez, I.M., Rodríguez-Domínguez, L. & Gallego-Álvarez, I. (2011). Corporategovernance and strategic information on the internet. *Accounting, Auditing & Accountability Journal,* 24 (4), 471-501.

Garg, M, C. & Gakhar, D. (2010). Web-Based Corporate Reporting Practices in India, *The IUP of the Accounting Research and Audit Practices*, IX(3), 7-19.

George, D. & Mallery, P. (2000). *SPSS for Windows step-by-step: A simple guide and reference (3rd ed).* Allyn & Bacon.

Geerings, J., Bollen, L. & Hassink, H. (2003). Investor relations on the Internet: a survey of the Euronext zone. *The European Accounting Review*, 12 (3), 567–579.

Ghani, E. K. & Jusoff, K. (2009), Determinants of Preferred Financial Digital Format by New Zealand Accounting Practitioners. *International Education Studies*. 2 (1), 167-177.

Gigler, F. (1994). Self-enforcing voluntary disclosures. *Journal of Accounting Research*, 32, 224-241.

Gigler, F. & Hemmer, T. (1998). On the frequency, quality, and informational role of mandatory reports. *Journal of accounting research*, 36, 117-147.

Gillan, S. L. (2006). Recent Developments in Corporate Governance: An Overview. *Journal of Corporate Finance*, 12, 381- 402.

Gillan, S. L. & Starks, L. T. (1998). A survey of shareholder activism: motivation and empirical evidence. *Contemporary Finance Digest*, 2 (3), 10 – 34.

Gillan, S. L. & Starks, L. T. (2003). Corporate governance, corporate ownership, and the role of institutional investors: a global perspective. *Journal of Applied Finance*, 13 (2), 4 – 22.

Glaser, B. G. & Strauss, A. L. (1967).*Discovery of grounded theory: Strategies for qualitative research.* Chicago: Aldine.

Goh, B., Ng, J. & Yong, K. (2011). *Board independence and information environment: an instrumental variable approach.* Working paper, MIT.

Goranova, M., Dharwadkar, R. & Brandes, P. (2010). Owners on Both Sides of the Deal: Mergers and Acquisitions and Overlapping Institutional Ownership. *Strategic Management Journal,* 31(10), 1114–1135.

Graham, J. R., Campbell, C. R. & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40 (1-3), 3-73.

Gray, D. (2009*). Doing Research in the Real World (2nd ed)*. Sage, London.

Gray, G. & Debreceny, R. (1997). Corporate reporting on the internet: opportunities and challenges. Proceedings of the 9th Asian-Pacific Conference on International Accounting Issues, Bangkok, November.

Gray, S. J. (1988). Towards a Theory of Cultural Influence on the Development of Accounting Systems Internationally. *ABACUS*, 24(1), 1-15

Gray, S.J., Radebaugh, L.H. & Roberts, C.B. (1989). International perceptions of cost constraints on voluntary information disclosures: a comparative study of UK and US multinationals. *Journal of International Business Studies*, 21, 597-622.

Groom, C., Du, S., Qu, W. & Sims, R. (2004). Accounting regulation and corporate governance in China's listed companies – an examination of the changing environment and current issues. Paper presented at the 2004 DEST (CHESI) Beijing Conference.

Grossman, S. J. & Stiglitz, J. (1980). On the impossibility of informationally efficient markets. *American Economic Review*, 70, 393–408.

Gowthorpe, C. & Amat, O. (1999). External Reporting of Accounting and Financial Information via the Internet in Spain. *European Accounting Review*, 8 (2), 365-371.

Gowthorpe, C. (2004). Asymmetrical dialogue? Corporate Financial Reporting via the Internet. *Corporate Communications: An International Journal*, 9 (4), 283–293.

Guba, E. G. & Lincoln, Y. S. (1989). *Fourth generation evaluation.* Newbury Park, CA: Sage.

Guba, E. G. & Lincoln, Y. S. (1994). *Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.)*, Handbook of qualitative research (105-117). Thousand Oaks, CA: Sag.

Gujarati, D. N. (2003). *Basic Econometrics (4th ed).* New York: McGraw-Hill/Irwin.

Gul, F. A., Kim, J. B. & Qiu, A. A. (2010). Ownership concentration, foreign shareholding, audit quality, and stock price synchronicity: Evidence from china. *Journal of Financial Economics,* 95 (3), 425-442.

Gul, F. A. & Leung, S. (2004). Board leadership, outside directors' expertise and voluntary corporate disclosure. *Journal of Accounting and Public Policy*, 23, 351-379.

Gunasekarage, A., Hess, K. & Hu. A. (2007). The influence of the degree of state ownership and the ownership concentration on the performance of listed Chinese companies. *Research in International Business and Finance*, 21 (3), 379–395.

Guo, E. & Keown, A. J. (2009). Privatization and non-tradable stock reform in China: The case of Valin Steel Tube & Wire Co., Ltd. *Global Finance Journal*, 20 (2), 191-208.

Hail, L. (2002). The impact of voluntary corporate disclosures on the ex-ante cost of capital for Swiss firms. *The European Accounting Review,* 11 (4), 741-773.

Hair, J., Anderson, R., Tatham, R. & Black, W. (1998). *Multivariate Data Analysis (5th ed).* Prentice Hall.

Hammersley, M. (1990). *Classroom ethnography: empirical and methodological essays.* Philadelphia. Open University Press.

Hanafi, S. R. B., Kasim, M. A. B., Ibrehim, M. K. B. & Hancock, D. R. (2009). Business Reporting on the internet: Development of a disclosure quality index. *International Journal of Business and Economics,* 8 (1), 55-79.

Haniffa, M. H. & Ab. Rashid, H. (2004). The determinants of voluntary disclosures in Malaysia: The case of internet financial reporting. Paper presented at International Business Management Conference 2004, Kuantan, Pahang, December 6-7.

Haniffa, R. & Cooke. T. E. (2002). Culture, corporate governance and disclosure in Malaysian corporations, *ABACUS*, 38 (3), 317–349.

Haniffa, R. & Hudaib, M. (2006). Corporate governance structure and performance of Malaysian listed companies. *Journal of Business and Accounting*, 33(7), 1034-1062.

Hassan, O. & Marston, C. L. (2010). Disclosure measurement in the empirical accounting literature- a review article. Available at SSRN: http://ssrn.com/abstract=1640598

Hassan, O., Romilly, P., Giorgioni, G. & Power, D. (2009). The value relevance of disclosure: Evidence from the emerging capital market of Egypt. *The International Journal of Accounting,* 44 (1), 79-102.

Hassink, H., Bollen, L. & Steggink, M. (2007). Symmetrical versus asymmetrical company-investor communications via the internet. *Corporate communication: An International Journal,* 12 (2), 145-160.

Hauke, J.& Kossowski, T. (2011). Comparison of values of Pearson's and Spearman's correlation coefficient on the same sets of data. *Quaestiones Geographicae* , 30(2), 87–93.

Hausman J. A. (1978). *Specification Tests in Econometrics*. Econometrica, 46(6), 1251-127.

Haw, M., Qi, D. & Wu, W. (2000). Timeliness of Annual Report Releases and Market Reaction to Earnings Announcements in an Emerging Capital Market: The Case of China. *Journal of International Financial Management and Accounting*, 11, 108-131.

Hayes, R. & Lundholm, R. (1996). Segment reporting to the capital market in the presence of a competitor. *Journal of Accounting Research*, 34 (2), 261–279.

He, Y. & Zhang, T.A. (2007). The Determinants of Voluntary Adopting IFR: Empirical Evidence from China, Wirelsss Communications, Networking and Mobile Computing. International Conference, 6099-6102.

Healy, P., Hutton, A. & Palepu, K. (1999). Stock performance and intermediation changes surrounding sustained increases in disclosure. Contemporary Accounting Research, 16, 485–520.

Healy, M. & Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal,* 3 (3), 118-126.

Healy, P. & Palepu, K. (1993). The effect of firms' financial disclosure strategies on stock prices. *Accounting Horizons*,7, 1–11.

Healy, P. & Palepu, K. (2001). Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature. *Journal of Accounting and Economics*, 31,405–40.

Hedlin, P. (1999). The Internet as a vehicle for investor relations: the Swedish case. *European Accounting Review*, 8 (2), 373-81.

Hegazy, M. & Hegazy, K. (2010). Corporate Governance in the U.K.: Audit Committees and disclosure Arrangements – A Web-Based Analysis. *Journal of Business Studies Quarterly,* 1 (2), 32-35.

Hermanson, D. R., Tompkins, J. G., Veliyath, R. & Ye, Z. (2012). The compensation committee process. Contemporary Accounting Research, 29 (3), 666-709.

Héroux, S. (2006). Web Site Content Management and Analysis: A Canadian Study - Summary Results. Working paper 07-2006, Vice-décanat à la recherche de l'ESG - UQAM, 18 p. http://www.esg.uqam.ca/recherche/document/

Himmelberg, C. (2002). Measuring the real effects of corporate governance. working paper, Columbia University.

Hode, F. (2001). Hyperlinking unaudited information and audited information: effects on investor judgements. *Accounting Review*, 76 (4), 675-692.

Hodge, F. & Pronk, M. (2006). The Impact of Expertise and Investment Familiarity on Investors' Use of Online Financial Report Information. *Journal of Accounting Auditing and Finance*. 21(3), 267-292.

Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-Related Values.* Beverly Hills, CA: Sage.

Holsti, O. R. (1969). *Content Analysis for the Social Sciences and Humanities*. Reading, MA: Addison-Wesley.

Hossain, M. H. B., Perera, M. H. B.& Rahman, A. (1995). Voluntary disclosure in the annual reports of New Zealand companies. *Journal of International Financial Management and Accounting,* 6 (1), 69–87.

Hudson, L. A. & Ozanne, J. L. (1988). Alternative Ways of Seeking Knowledge in Consumer research. Journal of Consumer research, 14, 508-521.

Hunter, S. A. & Smith, L. M. (2009). Impact of Internet Financial Reporting on Emerging Markets. *Journal of International Business Research*, 8(2), 21-40.

Huson, M., Parrino, R. & Starks, L. (2001). Internal Monitoring Mechanisms and CEO Turnover: A Long Term Perspective. *Journal of Finance*, 56, 2265-2297.

Hussy, R., Guiliford, J. & Lymer, A. (1998). *Corporate Communications: Financial Reporting on the Internet.* London: Deloitte Touche Tohmatsu.

Hussey, J. & Hussey, R. (1997). *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*. London, Macmillan.

IASC. (1999). *Business Reporting on the Internet*. International Accounting Standards Committee, London.

ICAEW, (2004). *Information for better markets: New reporting models for business. ICAEW Research Report*. London: Institute of Charted Accountants in England and Wales

IFAC (2002). *Financial reporting on the internet.* Staff paper, IFAC, New York, NY.

Iman, R. L. & Conover, W. J. (1979). *The use of the rank transform in regression.* Technometrics, 21,499–509.

Inchausti, B. G. (1997). The influence of Company Characteristics and Accounting Regulation on Information Disclosed by Spanish Firms. *The European Accounting Review,* 6, 45-68.

Iqbal, K. (2005). Business reporting on the internet in Malaysia and Singapore: A comparative study. *Corporate Communications*: *An International Journal*, 10 (1), 58 -68.

Ismail, M. Seetharaman, A. & Yee, B. F. (2007). The Pitfalls of Internet Financial Reporting, and Their Prevention. *The Journal of 21st Century Accounting*, 17 (1), 1-19.

Jeffrey, D. (2008). Canada's electronic reporting receives failing grades. *CMA management*, March.

Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm, managerial behaviour, agency cost and ownership structure. *Journal of Finance and Economics*, 3, 305-361.

Jensen, M. C. & Meckling, W. H. (1995). Specific and general knowledge and organizational structure. *Journal of Applied Corporate Finance*, 8 (2), 4–18.

Johnson, R. B., Onwuegbuzie, A. J. & Turner, L. A. (2007). Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 1, 112.

Kamala, R. (2005). *Social Accounting of a selection of Arab Countries: Critical and Postcolonial Perspectives*. Ph.D thesis, Heriot-Watt University.

Kelly, G. J. (1994). Unregulated segment reporting: Australian evidence. *British Accounting Review,* 26, 217-234.

Kelton, A. S. & Yang, Y. (2008). The impact of corporate governance on Internet financial reporting. *Journal of Accounting and Public Policy*, (27), 62–87.

Khadaroo, M. I. (2005). Business reporting on the internet in Malaysia and Singapore: A comparative study. Corporate Communications: *An International Journal*, 10,58-68.

Khanna, T., Palepu, K. G. & Srinivasan, S. (2004). Disclosure practices of foreign companies interacting with US Markets, Journal of Accounting Research, 42 (2), 475-508.

Krippendorff, K. (2004). *Content Analysis: An introduction to its methodology*. New York: Sage.

Kwon, E. (2009). Financial Market Liberalization in the People's Republic of China. *Pacific Focus*, 24 (2), 225–246.

Lai, S. C., Lin, C., Lee, H. C. & Wu, F. H. (2010). An empirical study of the impact of Internet financial reporting on stock prices. *The International Journal of Digital Accounting,* 10, 1-26.

Lam, S.S. & Du, J. (2004). Information Asymmetry and Estimation Risk: Preliminary Evidence from Chinese Equity Markets. *Pacific-Basin Finance Journal,* 12, 311-331.

Lambert, R. A. (2001). Contracting Theory and Accounting. *Journal of Accounting and Economics,* 32, 3 – 87.

Lambert, R., Leuz, C. & R. Verrecchia, R. (2007). Accounting information, disclosure, and the cost of capital, *Journal of Accounting Research*, 45, 385-420.

Lan, Y., Wang, L. L. & Zhang, X. Y. (2013). Determinants and features of voluntary disclosure in the Chinese stock market. *China Journal of Accounting Research,* 6 (4), 265–285.

Lang, L. & Stulz, R. (1994). Tobin's Q, corporate diversification, and firm performance. *Journal of Political Economy*, 102, 1248-1280.

Lang, M. & Lundholm, R. (1993). Cross-sectional determinants of analyst's ratings of corporate disclosures. *Journal of Accounting research*, 31 (2), 246-271.

Lang, M. & Lundholm, R. (1996). Corporate Disclosure Policy and Analyst Behavior. *The Accounting Review*, 71 (4), 467-492.

Larcker, D. F. & Rusticus, T. (2010). On the Use of Instrumental Variables in Accounting Research. *Journal of Accounting and Economics*. 49 (3), 186–205.

Larrán, M. & Giner, B. (2002). The use of the internet for corporate reporting by Spanish companies. *The International Journal of Digital Accounting Research,* 2 (1), 53-82.

Lee, S. H. & Makhija, M. (2009). Flexibility in Internationalization: Is It Valuable during an Economic Crisis*? Strategic Management Journal*, 30 (5), 537-55.

Leung, N. W. & Cheng, M. (2013). Corporate governance and firm value: Evidence from Chinese state-controlled listed firms. *China Journal of Accounting Research*, 6 (2), 89–112.

Leung, R. L. (2009). *Voluntary Corporate Governance Disclosure, Firm Valuation, and Dividend Payout: Evidence for Hong Kong Listed Firms*. Ph.D thesis, Universty of Glasgow.

Leuz, C. & Verrecchia, R. (2000). The economic consequences of increased disclosure. *Journal of Accounting Research*, 38, 91-124.

Li, K., Yue, H. & Zhao, L. (2009). Ownership, Institutions, and Capital Structure: Evidence from China. *Journal of Comparative Economics*, 37, 471–90.

Li, J. & Xiao, H. (2002). The Status quo, Demand and Future of Environmental Reporting in Chinese Enterprises. *Accounting Research*, 4, 42-50.

Lillis, A. (2006). Reliability and Validity in Field Study Research. In Methodological Issues in Accounting Research: Theories, Methods and Issues, edited by Z. Hoque. London: Spiramus Press.

Lillis, A. (2008). Qualitative Management Accounting Research: Rationale, Pitfalls and Potential. Qualitative Research in Accounting and Management 5 (3): 239-246.

Lin, Z. J. & Chen, F. (2005). Value relevance of international accounting standards harmonization: Evidence from A-and B-share markets in China. *Journal of International Accounting, Auditing and Taxation,* 14, 79 -103.

Liu, J. & Eddie, I. A. (2007). Determinants of disclosures of A-, B- and H-share companies. *Asian Review of Accounting*, 15 (1), 72-92.

Liu, Q. (2006). Corporate Governance in China: Current Practices, Economic Effects and Institutional Determinants. *CESifo Economic Studies*, 52(2), 415-453.

Lindenberg, E. B. & Ross, S. A. (1981). Tobin's Q ratio and industrial organization. *Journal of Business*, 54, 1-32.

Linsley, P. M. & Shrives, P. J. (2000). Risk management and reporting risk in the UK. *Journal of Risk*, 3 (1), 115-129.

Louwers, T. J., Pasewark, W, R. & Typpo, E. W. (1996). The Internet: Changing the way Corporations tell their story. *CPA Journal*, 66 (11), 24-28.

Lybaert, N. (2002). On-Line Financial Reporting: An Analysis of the Dutch Listed Firms. *The International Journal of Digital Accounting Research*, 2 (4), 197-236.

Lymer, A. (1998). The use of the internet for corporate reporting. A discussion of the issues and survey of current usage in the UK, paper presented at the 21st Annual Congress of the European Accounting Association, Antwerp, 6-8 April.

Lymer, A. (1999). The Internet and the future of corporate reporting in Europe. *European Accounting Review*, 8 (2), 289-301.

Lymer, A., Debreceny, R., Gray, G. & Rahman, A. (1999). *Business reporting on the Internet.* London: International Accounting Standards Committee.

Lymer, A. & Tallberg, A. (1997). Corporate Reporting and the Internet: A Survey and Commentary on the Use of the WWW in Corporate Reporting in the UK and Finland, Paper presented at the 20th Annual Congress of the European Accounting Association, Graz, Austria, April.

Malhotra, P. & Makkar, R. (2012). A study of Corporate Web Reporting Practices in India. *The IUP Journal of Corporate Governance*, XI (1), 7- 19.

Manjinder, S. (2013). Impact of Company Characteristics on Web-Based Business Reporting in India. *IUP Journal of Accounting Research & Audit Practices*, 12 (1), 21-46.

Marsh, C. (1982). *The survey method: The contribution of surveys to sociological Explanation*. London: Allen and & Unwin, 121-147.

Marshall, A. (1997). *Principles of economics (Great Minds Series).* Amherst, NY: Prometheus Books.

Marshall, C. & Rossman, A. (1995). *Designing Qualitative Research*. CA: Sage Publications.

Marston, C. L. (1996). The organization of the investor relations function by large UK quoted Omega, 24 (4), 477–88.

Marston, C. L. & Polei, A. (2004). A Corporate reporting on the Internet by German Companies. *International Journal of Accounting Information Systems*, (5), 285- 311.

Marston, C. L. (1999). *Investor relations meeting: views of companies, Institutional investors and analysts*. The institute of Charted Accountants of Scotland, Edinburgh.

Marston, C. L. (2003). Financial reporting on the internet by leading Japanese companies. *Corporate Communications: An International Journal*, (8), 23-34.

Marston, C. L. & Leow, C. Y. (1998). Financial Reporting on the Internet by leading UK Companies, Paper presented at the 21st Annual Congress of the European Accounting Association, Antwerp, Belgium, April.

Marston, C. L. & Shrives, P. J. (1991). The use of disclosure indics in accounting research: A review article. *British Accounting Review*, 23, 195-210.

Mason, J. (1996). *Qualitative Researching*. London, Sage

Matheson, D. & Maestas, A. (2006). Keep Me Posted! Web Site Posting of SEC and Corporate Governance Material. *The Corporate Governance Advisor*, 14 (4), 25-31.

Matheson, D. & Reynolds, E. (2004). Web site posting of SEC and corporate governance materials: Required postings and practical advice. *The computer & Internet lawyer*, 21 (6), 12-16.

Maynard, M. (1994). *Methods, practice and epistemology: the debate about feminism and research.* London: Taylor and Francis.

McKnight, P. & Weir, C. (2009). Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis. *The Quarterly Review of Economics and Finance*, 49, 139–158.

Meek, G. K., Roberts, C. B., & Gray, S. J. (1995). Factors influencing voluntary annual report disclosure by U.S., U.K. and Continental European multinational corporations. *Journal of International Business Studies, 26 (3) (Fall),* 555-572.

Mertler, C. A. & Vannatta, R. A. (2005). *Advanced and multivariate statistical methods: practical application and interpretation (3rd ed).* Glendale, CA: Pyrczak Publishing.

Meyer, J. W. & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83, 340- 63.

Milne, M. J. & Adler, R. W. (1999). Exploring the reliability of social and environmental disclosures content analysis. *Accounting, Auditing & Accountability Journal,* 12 (2), 237 – 256.

Mohamed, E. K. A., Oyelere, P. & Al-Busaidi, M. (2009). A survey of internet financial reporting in Oman. *International Journal of Emerging Markets*, 4 (1), 56-71.

Moradi, M., Salehi, M. & Arianpoor, A. (2011). A Study of the Reasons for Shortcomings in Establishment of Internet Financial Reporting in Iran. *African Journal of Business Management,* 5 (8), 3312-3321.

Morris, R. D. (1987). Signalling, Agency Theory and Accounting Policy Choice. *Accounting and Business research*, 18 (69), 47-56.

Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5 (1), 147–175.

Neuman, W. L. (2006). *Social Research Methods: Qualitative and Quantitative Approaches.* Boston: Allyn and Bacon.

Newton, N. (2010). The use of semi-structured interviews in qualitative research: strength and weakness. *Exploring Qualitative method*, 1-11.

O'Donovan, G. (1999). Managing legitimacy through increased corporate reporting: an exploratory study. *Interdisciplinary Environmental Review*, 1 (1), 63-99.

OECD. (2011). *Corporate Governance of Listed Companies in China: Self-Assessment by the China Securities Regulatory Commission*. OECD Publishing. http://dx.doi.org/10.1787/9789264119208-en

OECD. (1999). *OECD Science, Technology and Industry Scoreboard*. Benchmarking.

Ogden, S. G. (1993). The limitations of agency theory: the case of accounting-based profit sharing schemes. *Critical Perspectives on Accounting*, 4 (2), 179-206.

Ojah, K. & Mokoaleli-Mokoteli, T. (2012). Internet financial reporting, infrastructures and corporate governance: An international analysis. *Review of Development Finance*. 2, 69-83.

Orens, R., Aerts, W. & Cormier, D. (2010). Web-based non-Financial disclosure and cost of Finance. *Journal of Business Finance and Accounting*, 37 (9–10), 1057–1093.

Oylere, P., Laswad, F. & Fisher, R. (2003). Determinants of Internet financial reporting by New Zealand companies. *Journal of International Financial Management and Accounting,* 14 (1), 26-63.

Oyelere, P. B. & Mohamed, E. K. A. (2007). Internet Financial Reporting in Oman. *Global Journal of Business Research*, 1(1), 45-54.

Omar, B.F.A. (1997). *Exploring the Aggregate, Mandatory, and Voluntary Financial Disclosure Behaviour Under A New Regulatory Environment: The case of Jordan*. Ph.D thesis, University of Hull.

Patel, S. & Dallas, G. (2002). Transparency and disclosure: Overview of methodology and study results United State. http://governance.standardand poors.com.

Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*. Thousand Oaks, Sage.

Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods(3rded).* Sage.

Pendley, J. A. & Rai, A. (2009). Internet financial reporting: An examination of current practice. *International Journal of Disclosure & Governance*, 6 (2), 89-105.

Pertiwi, D. A. & Hermana, I. B. (2013). Comparing Internet Financial Reporting Index between Bank and Non Bank in Indonesia. *Journal of Internet Banking and Commerce*, 18 (2), 1-14.

Pervan, I. (2006). Voluntary Financial Reporting on the Internet – Analysis of the practice of Croatian and Slovene listed joint stock companies. *Financial Theory and Practice*, 30 (1), 1-27.

Pervan, I. (2009). Trends of Voluntary Internet Reporting in Croatia: Analysis for the Period 2005 – 2007. *Interdisciplinary Management Research*, 5, 617-625.

Petravick, S. & Gillet, J. (1998). Distributing earnings reports on the internet. *Management Accounting*, 80, 54-6.

Petravik, S. & Gillett, J. (1996). Financial Reporting on the World Wide Web. *Management Accounting*, 78, 26-29.

Pirchegger, B. & Wagenhofer, A. (1999). Financial information on the internet: a survey of the homepages of Austrian companies. *European Accounting Review*, 8 (2), 383-395.

Powell, W. W. & DiMaggio, P. J. (1991). *The new institutionalism in organizational analysis*. Chicago: University of Chicago.

Prencipe, A. (2004). Proprietary costs and determinants of voluntary segment disclosure: evidence from Italian listed companies. *European Accounting Review*, 13(2), 319-340.

Qu, W. & Leung, P. (2006). Cultural impact on Chinese corporate disclosure-a corporate governance perspective*, Managerial auditing journal*, 21(3), 241- 264.

Qu, W, Leung, P. & Cooper, B. (2013). A study of voluntary disclosure of listed Chinese firms - a stakeholder perspective*, Managerial auditing journal*, 28(3), 261- 294

Quagli, A. & Riva, P. (2005). Do Financial Websites Meet the Users' Information Needs? A Survey from the Italian Context. Available at SSRN: http://ssrn.com/abstract=863744

Radhakrishnan, S. (2014). The China puzzle: Opportunities for accounting research. *China Journal of Accounting Research.* 7(1), 1–8.

Ralston, D., Egri, C.P., Stewart, S., Terpstra, R.H., & Kaicheng, Y. (1999). Doing business in the 21st century with the new generation of Chinese managers: A study of generational shifts in work values in China. *Journal of International Business Studies*, 30(2), 415-428.

Rahman, Z. D. (2010). The Impact of Internet Financial Reporting on Stock Prices Moderated by Corporate Governance: Evidence from Indonesia Capital Market. Available at SSRN: http://ssrn.com/abstract=1576327

Reuters. (2013). China gave $910 mln in foreign investment quotas in March. [Online]. [Accessed 09 April 2013]. Available from http://www.reuters.com/article/2013/04/09/china-investment-qfii-idUSL3N0CI10A20130409

Richards, J. & Tower, G. (2004). Progress on XBRL From an Australian Perspective. *Australian Accounting Review, 14(32), 81-88.*

Richardson, A. J. & Welker, M. (2001). Social disclosure, financial disclosure and the cost of equity capital. *Accounting, Organisations and Society*, 26 (7-8), 597-616.

Robb, S. W. G., Single, L. E. & Zarzeski, M. T. (2001). Nonfinancial disclosures across Anglo-American countries. *Journal of International Accounting, Auditing & Taxation*, 10 (1), 71-83.

Ross, S. (1979). *Disclosure Regulation in Financial Markets: Implications on Modern Finance Theory and Signalling Theory, Issues in Financial Regulation*, in Edwards, F. (ed). New York: McGraw Hill, 177-193.

Rowbottom, N., Allam, A. & Lymer, A. (2005). An exploration of the potential for studying the usage of investor relations information through the analysis of web server logs. *International Journal of Accounting Information System*, 6, 31-53.

Rowbottom, N. & Lymer, A. (2009). Exploring the use of online corporate sustainability information. *Accounting Forum*, 33 (2), 176-186.

Rowbottom, N. & Lymer, A. (2010). Exploring the use and users of narrative reporting in the online annual report. *Journal of Applied Accounting Research*, 11(2), 90-108.

Ruppert, D., Wand, M. P. & Carroll, R. J. (2003). *Semiparametric Regression*. Cambridge University Press; Cambridge, New York.

Sánchez, I. G., Domínguez, L. R. & Álvarez, I. G. (2011). Corporate governance and strategic information on the internet: A study of Spanish listed companies. *Accounting, Auditing & Accountability Journal, 2*4 (4), 471 – 501.

Saunders, M., Lewis, P. & Thornhill, A. (2007). *Research Methods for Business Students (4th ed).* FT Prentice Hall.

Schipper, K. (1981). Discussion of voluntary disclosure corporate disclosure: The case of interim reporting. *Journal of Accounting Research*, 19, 85–88.

Scott, T. (1994). Incentives and Disincentives for Financial Disclosure: Voluntary disclosure of Defined Benefit Pension Plan Information by Canadian Firms. *The Accounting Review*, 69, 26-43.

Scott, W. R. (1995). *Institutions and organizations: Toward a theoretical synthesis.* Thousand Oaks, CA: Sage.

Scott, W. R. (2008). *Institutions and Organizations*. Thousand Oaks, CA: Sage Publishing.

Secord, P. & Su, X. (1994). An Empirical Analysis of Culture and Accounting Models in Asia. *Asian Review of Accounting.* 2(1), 3-21.

Seidman, I. (1998). *Interviewing as qualitative research: A guide for researchers in education and the social sciences (2nd ed).* New York: Teachers College Press.

Sekaran, U. (2003). *Research Methods for Business, A Skill-Building Approach (4th ed).* New York: John Wiley & Son Inc.

Selznick, P. (1996). Institutionalism 'Old' and 'New'. *Administrative Science Quarterly,* 41 (2), 270–277.

Shan, Y. G. & Xu, L. (2012). Do Internal Governance Mechanisms Impact on Firm Performance? Empirical Evidence from Financial Sector in China. *Journal of Asia-Pacific Business,* 13 (2), 114-142.

Sharma, A., Branch, B., Chgawla, C & Qiu, L (2013). *Explaining Market-to-Book, the relative impact of firm performance, growth, and risk.* Working paper, Isenberg School of Management, University of Massachusetts.

Shleifer, A. & Vishny, R. (1997). A survey of corporate governance. *Journal of Finance*, 52, 737 – 775.

Shukla, A. & Gekara, M. G. (2010). Corporate reporting in Morden era: A comparative study of Indian and Chinese companies. *Global Journal of International Business Research*, 3 (3), 42-56.

Silva, W. M. & Alves, L.A.L. (2004). The voluntary disclosure of financial information on the internet and the firm value effect in companies across Latin America. http://www.auroy.com

Singhvi, S. & Desa, H. (1971). An empirical analysis of the quality of corporate financial disclosure. *Accounting review,* 46 (1), 129-138.

Skinner, D. (1994). Why firms voluntarily disclose bad news. *Journal of Accounting Research,* 32,38–61.

Smith, B. & Pierce, A. (2005). An Investigation of the Integrity of Internet Financial Reporting. *The International Journal of Digital Accounting Research*, 5 (9), 47-78.

Smith, C. & Warner, J. (1979). On financial contracting: an analysis of bond covenants. *Journal of Financial Economics*, 7, 117–161.

Spence, A. M. (1973). Job Market Signalling. *Quarterly Journal of Economics*, 87 (3), 355-374.

Spence, A. M. (1974). Market Signalling: Information transfer in Hiring and Related Processes. *Harvard University Press*. Cambridge, Massachusetts.

Spence, A. M. (1976). Informational aspects of market structure: an introduction. *The Quarterly Journal of Economics,* 90(4), 591–97.

Stevens, J. (1996). *Applied multivariate statistics for the social sciences (3rd ed).* Mshwah, NJ: Lawrence Erlbaum.

Strauss, A. & Corbin, J. (1998*). Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory (2nd ed).* Sage, Thousand Oaks, California.

Sun, Q. & Tong, W. (2003). China share issue privatization: The extent of its success. *Journal of Finance Economics*, 70, 183-222.

Sweeney A. (1994). Debt covenant violations and managers' accounting responses. *Journal of Accounting and Economics*, 17, 281–308.

Tabachnick, B. G. & Fidell, L. S. (2001). *Using multivariate statistics (4th ed).* Needham Height, MA, Allyn and Bacon.

Tang, K. & Wang, C. (2011). Corporate Governance and Firm Liquidity: Evidence from the Chinese Stock Market. *Emerging Markets Finance and Trade*, 47 (1), 47-60.

Tashakkori, A. & Teddlie, C. (1998). Mixed Methodology: Combining qualitative and quantitative approaches. Thousand Oaks, CA: Sage.

Tian, X. W. (2007). *Managing International Business in China*. Cambridge: Cambridge University Press.

Tillotson, J. (2002). Web site evaluation: a survey of undergraduates. Online Information Review, 26 (6), 392 – 403.

Tinker, T., Merino, B. & Neimark, M.D. (1982). The Normative Origins of Positive Theories: Ideology and Accounting Thought. *Accounting, Organizations and Society*, 7 (2), 167-200.

Trites, G. (1999). *The Impact of Technology on Financial and Business Reporting*. Canadian Institute of Chartered Accountants.

Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money, Credit and Banking,* 2, 15-29.

Trabelsi, S., Labelle, R. & Laurin, C. (2004). The management of financial disclosure on corporate websites: a conceptual model. *Canadian Accounting Perspectives*, 3 (2), 235-259.

Trabelsi, S., Labelle, R. & Dumontier, P. (2008). Incremental Voluntary Disclosure on Corporate Websites, Determinants and Sequences. *Journal of Contemporary Accounting and Economics,* 4 (2), 122-155.

Tremblay, M. S. & Gendron, Y. (2011). Governance Prescriptions under Trial: On the Interplay between the Logics of Resistance and Compliance in Audit Committees. Critical Perspectives on Accounting, 22 (3), 259-272.

Trueman, B. (1986). Why do managers voluntarily release earnings forecasts? *Journal of Accounting and Economics,* 8, 53–72.

Tuttle, B. & Dillard, J. (2007). Beyond competition: Institutional Isomorphism in U.S. Accounting research. *Accounting Horizons*, 21 (4), 387.

Unerman, J. (2000). Methodological Issues: Reflections on Quantification in Corporate Social Reporting Content Analysis. *Accounting, Auditing & Accountability Journal*, 13 (5), 667-680.

Unerman, J. & Bennett, M. (2004). Increased stakeholder dialogue and the internet: Towards greater corporate accountability or reinforcing capitalist hegemony?. *Accounting, Organizations and Society*, 29 (7), 685-707.

Van Slyke, D. M. (2007). Agents or Stewards: Using Theory to Understand the Government – Nonprofit Social Services Contracting Relationship. *Journal of Public Administration Research and Theory,* 17 (2), 157-187.

Verrecchia, R. (1983). Discretionary disclosure. *Journal of Accounting and Economics*, 5, 179-94.

Verrecchia, R. (2001). Essays on disclosure. *Journal of Accounting and Economics*, 32(1/3), 97–180.

Wagenhofer, A. (1990). Voluntary disclosure with a strategic opponent. *Journal of Accounting and Economics*, 12, 341-63.

Wagenhofer, A. (2007). Economic consequence of internet financial reporting, New dimensions of business reporting and XBRL. Part 2, 99-123.

Wallace, R. S. O., Naser, K. & Mora, A. (1994). The relationship between the comprehensiveness of corporate annual reports and firm characteristics in Spain. *Accounting and Business Research,* 25 (97), 41-53.

Wallace, R. S. O. & Naser, K. (1995). Firm Specific Determinants of the Comprehensiveness of Mandatory Disclosure in the Corporate Annual Reports of Firms Listed on the Stock Exchange of Hong Kong. *Journal of Accounting and Public Policy*, 14, 311-369.

Wallman, S. (1995). The Future of Accounting and Disclosure in Evolving World: The Need for Dramatic Change. *Accounting Horizon,* 9 (3), 81-91.

Wang, Z., Ali, M. J. & Al-Akra, M. (2013). Value relevance of voluntary disclosure and the global financial crisis: evidence from China. *Managerial Auditing Journal*, 28 (5), 444 – 468.

Wang, K. & Claiborne, M. (2008). Determinants and consequences of voluntary disclosure in an emerging market: Evidence from China. *Journal of International Accounting, Auditing and Taxation,* 17 (1), 14-30.

Wang, K., Sewon, C. & Claiborne, M. C. (2008). Determinants and consequences of voluntary disclosure in an emerging market: Evidence from China. *Journal of International Accounting, Auditing and Taxation,* 17 (1), 14–30.

Watson, A., Shrives, P. & Marston, C. L. (2002). Voluntary disclosure of accounting ratios in the UK. *The British Accounting Review*, 34 (4), 289-313.

Watts, R. & Zimmerman, J. (1978). Towards a positive theory of the determination of accounting standards. *The Accounting Review,* 53 (1), 112–134.

Watts, R. & Zimmerman, J. (1990). Positive Accounting Theory: A Ten Years Perspective. *The Accounting Review,* 65 (1), 131-156.

Webb, E. J., Campbell, D.T., Schwartz, R.D. & Lee, S. (1966). *Unobtrusive Measures: nonreactive research in the social sciences*. Chicago: Rand McNally.

Weber, R.P. (1990). *Basic Content Analysis (2nd ed).* London: Sage.

Weetman, P. (1994). The operational and Financial review: Views of the analysts and Institutional Investors, The institute of Charted Accountants of Scotland, Edinburgh.

Wei, G & Geng, M. (2008). Ownership structure and corporate governance in China: Some current issues*, Managerial Finance*, 34 (12), 934-952.

Weir, C., Laing, D. & McKnight, P. (2002). Internal and external governance mechanisms: Their impact on the performance of large UK public companies. *Journal of Business Finance and Accounting*, 29 (5&6), 579–611.

Welker, M. (1995). Disclosure policy, information asymmetry, and liquidity in equity markets. *Contemporary Accounting Research*, 11 (2), 801-827.

White. C. & Raman, N. (2000). The World Wide Web as a public relations medium: The use of research, planning, and evaluation in Web sites development. *Public Relations Review*, 25(4), 405-419.

Whittington, G. (1993). Corporate Governance and the regulation of financial reporting. *Accounting and Business research*, 23(91), 311-319.

Whittington, G. (1987). Positive Accounting: A Review Article. *Accounting & Business Research,* 17 (68), 327-335.

World Bank. (2009). *China – Report on the Observance of Standards and Codes (ROSC) Accounting and Auditing*. 1-30.

Xiao, Z., Jones, M. J. & Lymer, A. (2002). Immediate Trends in Internet Reporting. European Accounting Review. 11 (2), 245–275.

Xiao, J. Z., Jones, M. J. & Lymer, A. (2005). A Conceptual Framework for Investigating the Impact of the Internet on Corporate Financial Reporting. *The International Journal of Digital Accounting Research* 5 (10), 131-169.

Xiao, J. Z., Yang, H. & Chow, C. W. (2004). The determinants and characteristics of voluntary internet-based disclosures by listed Chinese companies. *Journal of Accounting & Public Policy,* 23 (3), 191-225.

Xu, X. & Wang, Y. (1999). Ownership structure and corporate performance in Chinese stock companies. *Chinese Economic Review*, 10, 75–98.

Yap, K. & Saleh, Z. (2011). Internet Financial Reporting in Malaysia: The Preparers' View. *Asian Journal of Finance & Accounting*, 3 (1), 138–161.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors, *Journal of Financial Economics*, 40, 185-221.

Yin, R. K. (2009). *Case Study Research: Design and Methods (4th ed).* London: Sage.

Zucher, H. G. (1977). The variables nature of institutionalization in cultural persistence. *American Sociological Review*, 42, 726-43.

Zucher, H. G. (1987). Institutional theories of organizations, *Annual Review of Sociology*, 13, 443-64.

Appendices

Appendix 1 Disclosures of checklist items by the sample companies

1) Content Items	Number	Percentage
1.1 Accounting and Financial information		
1.1.1 Balance sheet of current year		
1.1.2 Balance sheet of past year		
1.1.3 Income statement of current year		
1.1.4 Income statement of past year		
1.1.5 Cash flow statement of current year		
1.1.6 Cash flow statement of past year		
1.1.7 Notes to the financial statement of current year		
1.1.8 Notes to financial statement of past year		
1.1.9 Auditor report of current year		
1.1.10 Auditor report of past year		
1.1.11 Quarterly report of current year		
1.1.12 Quarterly report of past year		
1.1.13 Half-year report of current year		
1.1.14 Half-year report of past year		
1.1.15 Annual report of current year		
1.1.16 Annual report of past year		
1.1.17 Top ten stockholders in the current year		
1.1.18 Statement of changes in stockholders' equity		
1.1.19 Management report		
1.1.20 Share price history		
1.1.21 Market share of key products		
1.1.22 Share price performance in relation to stock market index		
1.1.23 Summary of key financial ratios		
1.1.24 Past press release		
1.1.25 Segmental reporting		
1.1.26 Financial statements according to China GAAP		
1.1.27 The difference between China GAAP and IFRS		
1.1.28 Past financial highlights/summary		
1.1.29 Earnings or sales forecast		
1.1.30 Industry statistics or data		
1.1.31 Past dividends		
1.1.32 Performance analysis		
1.1.33 Links to financial analysts		
1.1.34 Links to Chinese Stock Exchange		
1.1.35 Supplement or Amendment to current year annual report		
1.1.36 Earnings release		
1.2 Corporate Governance Information		
1.2.1 Notice of meetings and agenda to annual shareholders' meeting		

1.2.2 Speeches of the management board during the AGM		
1.2.3 Articles of Association		
1.2.4 Code of Ethics		
1.2.5 Board of directors names or photos		
1.2.6 Board of directors (C. V, profiles and executives/non executives)		
1.2.7 Remuneration of board of directors		
1.2.8 Management Team		
1.2.9 Chairman's message to shareholders		
1.2.10 Organizational Structure		
1.2.11 Ownership structure		
1.2.12 Corporate governance principles/guidelines		
1.2.13 Management's plan to meet objectives and strategies		
1.2.14 Charters of audit committee		
1.2.15 Charters of other committee		
1.3 Social Responsibility Information		
1.3.1 Company profile		
1.3.2Company history		
1.3.3 Customer profile		
1.3.4 Employee profile/training		
1.3.5 Human resources Information		
1.3.6 Environmental /safety health Report		
1.3.7 Corporate responsibility report		
1.3.8 Mission/Vision statement		
1.3.9 Discussing on product quality and safety		
1.3.10 Certificate of quality assurance (ISO) or awards of best practice (for service Companies)		
1.3.11 Donations/sponsoring to community groups		
1.3.12 Links to products services and sales information		
1.4 Contact Details Information		
1.4.1 The existence of investor relations section		
1.4.2 Name of investor relations officer		
1.4.3 E-mail to investor relations		
1.4.4 Phone number to investor relations		
1.4.5 Postal address to investor relations		
Total content 68		
(2) Timeliness of Information		
2.1 Current press releases or news		
2.2 Current share price		
2.3 Calendar for future financial events		
2.4 Pages indicate the latest update		
2.5 Hints for finding current information directly		
2.6 Current key financial ratios		
2.7 Current financial highlight/summary		
2.8 Option to register for future e-mail alerts regarding press releases.		

2.9 The most recent quarterly report reports		
2.10 Current dividends announcements		
Total Timeliness 10		
(3) Presentation		
3.1 Annual report in PDF-format		
3.2 Annual report in HTML-format		
3.3 Any financial statements in PDF format		
3.4 Any financial statements in HTML format		
3.5 Annual report in XBRL- format		
3.6 Any financial statements in XBRL format		
3.7 Graphic images		
3.8 Flashes (moving pictures)		
3.9 Sound files		
3.10 Video files		
3.11Webcast events		
3.12 Clear boundaries between the annual report and other information		
3.13 Change to printing friendly format possible		
3.14 Ability to download information		
3.15 Investor presentation		
3.16 English language of home page		
Total Presentation 16		
(4) Usability		
4.1 Link to annual report on home page		
4.2 Help site		
4.3 Pull-down menu		
4.4 Internal search box		
4.5 Next/previous/top buttons to navigate sequentially		
4.6 One click to get to investor relations information		
4.7 Site Map		
4.8 Feed Back		
4.9 Table of contents		
4.10 Mailing list		
4.11 Privacy statement		
4.12 Legal statement		
4.13 FAQ (in the Investor relation page)		
4.14 Financial glossary		
4.15 Book mark the page		
4.16 External links (other than Chinese Stock Exchange)		
4.17 Online investor information order services		
Total Usability 17		
Total Items 111		

Note: Each item is assigned either a 1 or a 0 depending on the whether it is disclosed or not, respectively

Appendix 2 Durbin-Watson and Variance Inflator Factor (VIF) value

	TOBINSQ2010	MBR 2010	TOBINSQ2011	MBR2011
Durbin-Watson	1.726	1.752	1.698	1.820
VARIABLES	**VIF**	**VIF**	**VIF**	**VIF**
TOTALSCORE	1.954	1.957	1.954	1.954
LNSIZE	2.199	2.222	2.199	2.199
ROA	1.171	1.167	1.171	1.171
STASHARE	1.115	1.118	1.115	1.115
LEGSHARE	1.111	1.103	1.111	1.111
FSHARE	1.271	1.272	1.271	1.271
CEODUALITY	1.074	1.071	1.074	1.074
BOARDSIZE	1.382	1.386	1.382	1.382
INDEPDIR	1.208	1.213	1.208	1.208

Appendix 3.1 Interview questions in English

First section:

Motivation and factors affect company's decision to adopt IFR and perceptions of IFR by companies.

B1) Interview questions (Reporting companies)

Introduction
Thank respondents for their support and time
Briefly mention the nature and importance of the research
Assure interviewees of the confidentiality of the research
Background Information
Name of the organisation:
Name of the Interviewee:
Interviewee's position:
Number of years in current position:
Interviewee's use of the Internet:
Number of years using the Internet:

Interview questions:

1) Are you satisfied with the Internet service available in China?
   If yes, please give the reason.
   If no, please give the reason.
2) Currently, according to our survey, 95% percent of our sample companies disclosed IFR information on their website, and 5% percent of our sample companies did not. Please tell me your opinion of why this is.
3) What is the motivation of your company when disclosing Financial Reporting data on your website?
   Briefly mention economic factors and corporate factors determining the quantity and quality (explain this to the interviewee) of IFR discovered in the survey.
   Ask: what, if any, other factors exist? Such as 'a communication tool to inform stakeholders' (explain)? Improve reputation and image? Top management decision?
4) What cost is incurred when your company discloses IFR on your website? What kind of costs?
   After the answer (depending on the answer), ask the follow questions:
   How about cost of producing IFR? How about the cost of competitors obtaining the information on your websites? Possible legal costs?
5) Are you satisfied with the quality of the IFR at your company?
6) Do you think that IFR is important to those who use your company's financial information? Please explain.
7) Do you think that your company might benefit from IFR? Please explain.
8) What are difficulties and problems you might encounter due to the IFR on your website?
9) In your opinion, how should IFR in China be developed and improved?
10) Are there any plans for your company to improve the IFR on your website?

B2) Interview questions (companies have website but no Financial information)

Introduction
Thank respondents for their support and time
Briefly mention the nature and importance of the research
Assure interviewees of the confidentiality of the research
Background Information
Name of the organisation:
Name of the Interviewee:
Interviewee's position:
Number of years in current position:
Interviewee's use of the Internet:
Number of years using the Internet:

Interview questions:

1) Are you satisfied with the Internet service available in China?
   If yes, please give the reason.
   If no, please give the reason.
2) Currently, according to our survey, 95% percent of our sample companies disclosed IFR information on their website, and 5% percent of our sample companies did not. Please tell me your opinion of why this is.
3) What is the motivation of your company when disclosing information on your website? Why your company did not disclose financial information on your website?
   Briefly mention economic factors and corporate factors determining the quantity and quality (explain this to the interviewee) of IFR discovered in the survey.
   Ask: what, if any, other factors exist? Such as 'a communication tool to inform stakeholders' (explain)? Improve reputation and image? Top management decision?
4) What cost is incurred when your company discloses IFR on your website? What kind of costs?
   After the answer (depending on the answer), ask the follow questions:
   How about cost of producing IFR? How about the cost of competitors obtaining the information on your websites? Possible legal costs?
5) Are you satisfied with the quality of the IFR at your company?
6) Do you think that your company might benefit from IFR? Please explain.
7) What are difficulties and problems you might encounter due to the IFR on your website?
8) In your opinion, how should IFR in China be developed and improved?
9) Are there any plans for your company to improve the IFR on your website?

B3) Interview questions (No Reporting companies)

Introduction
Thank respondents for their support and time
Briefly mention the nature and importance of the research
Assure interviewees of the confidentiality of the research
Background Information
Name of the organisation:
Name of the Interviewee:
Interviewee's position:
Number of years in current position:
Interviewee's use of the Internet:
Number of years using the Internet:

Interview questions:

1) Are you satisfied with the Internet service in China?
   If yes, please give reason.
   If no, please give reason.
2) Currently, according our survey, 95% percent of our sample company disclosed IFR on their website,5 % percent of our sample company did not. Please tell me your opinion of why this is?
3) Please give the reason why your company not disclose Financial Reporting on your websites?
   Is that because of cost factors? Is that because of legal environment? Is that because of technology reasons? Is that because of management decisions?
4) In general, do you think IFR is useful to users?
5) Are there any plans for your company to develop a website and disclose IFR on your own website in the future?

Appendix 3.2 Interview questions in Chinese

采访的问题

B1) 采访的问题（针对在网上有财务报表的公司）

自我介绍和初步会谈
对采访者的合作表示感谢
对项目的性质进行说明和项目的重要性
确保受访者的个人信息和这次会谈的保密性
背景信息：受访者的名称
受访者的单位
受访者的职务，职务年限
受访者的用互联网的时间

采访的具体问题：

1）你对中国的互联网服务满意吗？
如果满意，请给出原因。如果不满意，也请给出原因。
2）目前，根据我们的调查， 95%公司在互联网上展示财务报表，也有5%公司不这样做，请问你对此现像的观点是什么？
3）请问为什么贵公司要在把财务报表放在互联网上？
（简单介绍一些已经在调查中发现的经济原因，公司内部的因素等。有没有其他因素？比如，与股东交流沟通的渠道？增强企业形象？或者只是因为管理层的决策?）
4）请你谈谈贵公司在互联网上展示财务报表的的时候，有没有什么费用发生？是什么具体费用？
（根据收访者的回答，接着展开问题。是否牵涉到制作成本？还是涉及竞争者能利用贵公司的财务报表，发生竞争成本？法律因素？）
5）你对本公司的网上财务报表的质量满意吗？
6）请问你觉得网上财务报表对你公司的相关用户的重要性？请给出原因
7）你觉得你们公司受益于网上报表吗？请描述
8）在贵公司在互联网上展示网上报表的时候，有什么困难和问题发生？
9）以您的观点，请问中国的网上财务报表该如何发展和改进？
10） 请问贵公司有没有计划要改进你们的网上财务报表？

B2) 采访的问题（针对有网站，但网站没有财务报表的公司）

自我介绍和初步会谈
对采访者的合作表示感谢
对项目的性质进行说明和项目的重要性
确保受访者的个人信息和这次会谈的保密性
背景信息：受访者的名称
受访者的单位
受访者的职务，职务年限
受访者的用互联网的时间

采访的具体问题：

1）你对中国的互联网服务满意吗？
如果满意，请给出原因。如果不满意，也请给出原因。
2）目前，根据我们的调查， 95%公司在互联网上展示财务报表，也有5%公司不这样做，请问你对此现像的观点是什么？
3）请问为什么贵公司要在把一些信息放在互联网上？请问为什么贵公司没有把财务报表放在互联网上？
（简单介绍一些已经在调查中发现的经济原因，公司内部的因素等。有没有其他因素？比如，与股东交流沟通的渠道？增强企业形象？或者只是因为管理层的决策?）
4）请你谈谈贵公司在互联网上展示财务报表的的时候，有没有什么费用发生？是什么具体费用？
（根据收访者的回答，接着展开问题。是否牵涉到制作成本？还是涉及竞争者能利用贵公司的财务报表，发生竞争成本？法律因素？）
5）你对本公司的网上的信息质量满意吗？
6）你觉得你们公司受益于网上信息吗？请描述
7）在贵公司在互联网上展示网上报表的时候，有什么困难和问题发生？
8）以您的观点，请问中国的网上财务报表该如何发展和改进？
9）请问贵公司有没有计划要改进你们的网上信息？

B3 ）采访的问题（针对没有网站的公司）

自我介绍和初步会谈
对采访者的合作表示感谢
对项目的性质进行说明和项目的重要性
确保受访者的个人信息和这次会谈的保密性
背景信息：受访者的名称
受访者的单位
受访者的职务，职务年限
受访者的用互联网的时间

采访的具体问题：

1）你对中国的互联网服务满意吗？
如果满意，请给出原因。如果不满意，也请给出原因。
2）目前，根据我们的调查，有95%公司在互联网上展示财务报表，也有5%公司不这样做，请问你对此现像的观点是什么？
3）请问为什么贵公司没有把财务报表放在互联网上？
是否是成本原因? 法律环境原因？技术的原因？还是纯粹的管理层的决策?
4）请问您觉得用户有没有可能受益于网上财务报表？
5）请问贵公司近期或远期有没有计划在互联网上展示财务报表？

Appendix 4 Results of Hausman tests

```
. ivreg  TSCORE  LNSIZE STASHARE LEGSHARE FSHARE BIG4 BOARD ROA INDUSTRY CEODUAL (INDEDI= INDEDIA)

Instrumental variables (2SLS) regression

      Source |       SS       df       MS              Number of obs =     284
-------------+------------------------------           F( 10,   273) =   23.61
       Model |  86790.7474    10  8679.07474           Prob > F      =  0.0000
    Residual |  100798.224   273  369.224265           R-squared     =  0.4627
-------------+------------------------------           Adj R-squared =  0.4430
       Total |  187588.972   283  662.858558           Root MSE      =  19.215

------------------------------------------------------------------------------
      TSCORE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      INDEDI |   .4937646   .2187015     2.26   0.025     .0632087    .9243204
      LNSIZE |   7.499023   .9348189     8.02   0.000     5.658653    9.339393
   STASHARE |  -.1290452     .05855    -2.20   0.028     -.244312   -.0137784
   LEGSHARE |  -.0700995   .0618487    -1.13   0.258    -.1918606    .0516616
     FSHARE |   .1683046   .1024119     1.64   0.101    -.0333128     .369922
       BIG4 |   6.132031   3.806781     1.61   0.108    -1.362348    13.62641
      BOARD |  -.0026947   .3193252    -0.01   0.993    -.6313476    .6259582
        ROA |  -.2013033   .2129857    -0.95   0.345    -.6206066    .2179999
   INDUSTRY |   9.005263   3.585587     2.51   0.013     1.946348    16.06418
   CEODUAL |    6.89438   2.962007     2.33   0.021     1.063102    12.72566
      _cons |  -138.9848   20.40487    -6.81   0.000    -179.1557   -98.81391
------------------------------------------------------------------------------
Instrumented:  INDEDI
Instruments:   LNSIZE STASHARE LEGSHARE FSHARE BIG4 BOARD ROA INDUSTRY
               CEODUAL INDEDIA
------------------------------------------------------------------------------

. predict ivresid, residuals

.
. est store ivreg

. reg TSCORE  INDEDI LNSIZE STASHARE LEGSHARE FSHARE BIG4 BOARD ROA INDUSTRY CEODUAL

      Source |       SS       df       MS              Number of obs =     284
-------------+------------------------------           F( 10,   273) =   23.78
       Model |  87324.3763    10  8732.43763           Prob > F      =  0.0000
    Residual |  100264.596   273  367.269581           R-squared     =  0.4655
-------------+------------------------------           Adj R-squared =  0.4459
       Total |  187588.972   283  662.858558           Root MSE      =  19.164

------------------------------------------------------------------------------
      TSCORE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      INDEDI |   .3265413   .1387297     2.35   0.019     .0534252    .5996573
      LNSIZE |   7.637205   .9219082     8.28   0.000     5.822252    9.452158
   STASHARE |  -.1248652    .058243    -2.14   0.033    -.2395277   -.0102027
   LEGSHARE |  -.0712308   .0616743    -1.15   0.249    -.1926485    .0501869
     FSHARE |   .1646407   .1020739     1.61   0.108    -.0363112    .3655927
       BIG4 |   6.643802   3.761584     1.77   0.078    -.7615963     14.0492
      BOARD |  -.1138307   .2981865    -0.38   0.703     -.700868    .4732066
        ROA |   -.212495   .2121223    -1.00   0.317    -.6300984    .2051083
   INDUSTRY |   9.123784   3.574093     2.55   0.011     2.087498    16.16007
   CEODUAL |   6.808914   2.952903     2.31   0.022     .9955582    12.62227
      _cons |  -134.7899   19.90795    -6.77   0.000    -173.9825   -95.59733
------------------------------------------------------------------------------

. hausman ivreg

                 ---- Coefficients ----
                    (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
                  ivreg            .       Difference          S.E.
-------------+----------------------------------------------------------------
      INDEDI |   .4937646     .3265413        .1672233        .1690693
      LNSIZE |   7.499023     7.637205        -.138182        .1548278
   STASHARE |  -.1290452    -.1248652         -.00418        .0059875
   LEGSHARE |  -.0700995    -.0712308        .0011313        .0046419
     FSHARE |   .1683046     .1646407        .0036639        .0083142
       BIG4 |   6.132031     6.643802       -.5117714        .5848688
      BOARD |  -.0026947    -.1138307         .111136        .1142514
        ROA |  -.2013033     -.212495        .0111917        .0191586
   INDUSTRY |   9.005263     9.123784       -.1185215        .2868699
   CEODUAL |    6.89438     6.808914        .0854658        .2320507
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from ivreg
        B = inconsistent under Ha, efficient under Ho; obtained from regress

    Test:  Ho:  difference in coefficients not systematic

                chi2(10) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                         =        0.98
              Prob>chi2 =      0.9998

.
```

```
. ivreg  Totalcontent LNSIZE STASHARE LEGSHARE FSHARE BIG4 BOARD ROA INDUSTRY CEODUAL (INDEDI= INDEDIA)

Instrumental variables (2SLS) regression

      Source |       SS       df       MS              Number of obs =     284
-------------+------------------------------           F( 10,   273) =   20.29
       Model |  44469.8519    10  4446.98519           Prob > F      =  0.0000
    Residual |  60269.4579   273  220.767245           R-squared     =  0.4246
-------------+------------------------------           Adj R-squared =  0.4035
       Total |  104739.31   283  370.103568           Root MSE      =  14.858

------------------------------------------------------------------------------
Totalcontent |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      INDEDI |   .3643091   .1691118     2.15   0.032     .0313801    .6972381
      LNSIZE |   5.261595   .7228525     7.28   0.000     3.838522    6.684669
   STASHARE |  -.1067905    .045274    -2.36   0.019     -.195921   -.0176599
   LEGSHARE |  -.0560338   .0478248    -1.17   0.242    -.1501861    .0381185
     FSHARE |   .1106425   .0791904     1.40   0.163     -.045259     .266544
       BIG4 |   4.690548   2.943609     1.59   0.112     -1.10451    10.48561
      BOARD |   .0474831   .2469195     0.19   0.848    -.4386253    .5335914
        ROA |  -.0767595   .1646921    -0.47   0.642    -.4009874    .2474684
   INDUSTRY |   6.712633    2.77257     2.42   0.016     1.254298    12.17097
    CEODUAL |   4.940482   2.290384     2.16   0.032     .4314222    9.449541
      _cons |  -101.3014   15.77815    -6.42   0.000    -132.3637    -70.2391
------------------------------------------------------------------------------
Instrumented:  INDEDI
Instruments:   LNSIZE STASHARE LEGSHARE FSHARE BIG4 BOARD ROA INDUSTRY
               CEODUAL INDEDIA
------------------------------------------------------------------------------

. predict ivresid, residuals

.
. . est store ivreg

. reg Totalcontent INDEDI LNSIZE STASHARE LEGSHARE FSHARE BIG4 BOARD ROA INDUSTRY CEODUAL

      Source |       SS       df       MS              Number of obs =     284
-------------+------------------------------           F( 10,   273) =   20.40
       Model |  44797.1986    10  4479.71986           Prob > F      =  0.0000
    Residual |  59942.1113   273  219.568173           R-squared     =  0.4277
-------------+------------------------------           Adj R-squared =  0.4067
       Total |  104739.31   283  370.103568           Root MSE      =  14.818

------------------------------------------------------------------------------
Totalcontent |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      INDEDI |   .2333363   .1072659     2.18   0.030     .0221628    .4445098
      LNSIZE |   5.369823     .71282     7.53   0.000       3.9665    6.773145
   STASHARE |  -.1035166   .0450335    -2.30   0.022    -.1921738   -.0148595
   LEGSHARE |  -.0569198   .0476866    -1.19   0.234       -.1508    .0369604
     FSHARE |   .1077729   .0789236     1.37   0.173    -.0476033     .263149
       BIG4 |   5.091379   2.908459     1.75   0.081    -.6344805    10.81724
      BOARD |   -.039561    .230558    -0.17   0.864    -.4934586    .4143366
        ROA |  -.0855251   .1640131    -0.52   0.602    -.4084163    .2373661
   INDUSTRY |   6.805461   2.763491     2.46   0.014       1.365    12.24592
    CEODUAL |   4.873543   2.283187     2.13   0.034     .3786525    9.368433
      _cons |   -98.0159   15.39284    -6.37   0.000    -128.3196   -67.71215
------------------------------------------------------------------------------

. hausman ivreg

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |    ivreg            .       Difference          S.E.
-------------+----------------------------------------------------------------
      INDEDI |   .3643091    .2333363       .1309728        .1307396
      LNSIZE |   5.261595    5.369823      -.1082271        .1200139
   STASHARE |  -.1067905   -.1035166      -.0032739         .00466
   LEGSHARE |  -.0560338   -.0569198       .000886        .0036329
     FSHARE |   .1106425    .1077729       .0028696        .0064955
       BIG4 |   4.690548    5.091379      -.4008301        .4535419
      BOARD |   .0474831    -.039561       .0870441        .0883869
        ROA |  -.0767595   -.0855251       .0087656        .0149393
   INDUSTRY |   6.712633    6.805461      -.0928285         .224188
    CEODUAL |   4.940482    4.873543       .0669386        .1814292
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from ivreg
        B = inconsistent under Ha, efficient under Ho; obtained from regress

    Test:  Ho:  difference in coefficients not systematic

                chi2(10) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                         =          1.00
              Prob>chi2 =        0.9998

.
```